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# **Guide to Preparing Work Descriptions for Performance Work Statements for Contracted Maintenance Activities for Army Installation Directorates of Logistics**

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U.S. Army Directorates of Logistics (DOLs) are required to obtain many services from the private sector, unless a Commercial Activities (CA) study shows that, for reasons of economics or the highly specialized nature of the work, those services are better performed in house. Creating a Performance Work Statement (PWS), which describes requirements for mission-essential tasks associated with each functional activity, is a central part of a CA study.

This report contains an example PWS prepared for the DOL at Fort Polk, LA, including sections on general operational and recordkeeping requirements for individual maintenance organizations. This PWS is presented in a generic format that can be tailored to the specific practices of any U.S. Army installation DOL.

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## FOREWORD

This study was done for the U.S. Army Forces Command (FORSCOM) under Reimbursable Order No. 76-87, "Directorate of Logistics (DOL) Consolidated Maintenance Facility, Third Party Financing, Fort Polk, LA," dated September 1987. The FORSCOM technical monitor was Mr. Edward Keagy, FCJ8-RE.

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# **GUIDE TO PREPARING WORK DESCRIPTIONS FOR PERFORMANCE WORK STATEMENTS FOR CONTRACTED MAINTENANCE ACTIVITIES FOR ARMY INSTALLATION DIRECTORATES OF LOGISTICS**

## **1 INTRODUCTION**

### **Background**

Office of Management and Budget (OMB) Circular No. A-76<sup>1</sup> mandates that Army installation Directorates of Logistics (DOLs) obtain many services from the private sector unless a Commercial Activities (CA) study indicates that these services are performed more economically in house, or are inherently Governmental in nature.

The Performance Work Statement (PWS) is the central part of a CA study and presents, in a logical sequence and format, a description of the contractor output required to perform the mission-essential tasks associated with each functional activity. In the initial stages of defining the performance requirements, detailed analysis of each function, including interviews with functional managers, must be used to define accurately the desired contractor performance.

Each PWS should clearly describe the performance and expected results of the work rather than the process. The PWS should specify each mission-essential requirement that the contractor must meet. For example, unless the process to be followed in the performance of a task is an integral part of the product, the performance standards and measurement criteria for that task should be used to specify what is acceptable to the Government. Staffing requirements may describe completely acceptable performance. Any initial or one-time tasks required in connection with a service should be identified and their relationships with other tasks described. When satisfactory performance includes repetitive tasks, these tasks should be clearly described and their frequency defined. All records and reports the contractor must produce, maintain, and/or submit should be specified for format, number of copies, submittal point, submittal schedule, and Standard Form number, if applicable. A contract data requirements list or data item description should be used to present these requirements to the contractor and be made part of the PWS. Parts I to IV of the Supplement to OMB Circular A-76 provide detailed guidance for the preparation of a PWS, and include a Quality Assurance Surveillance Plan (QASP), a Management Study, and a Cost Comparison.

In many cases, it has been found that after a Commercial Activities review, the decision to contract work out has been based on an underestimation of the job described in the PWS. As a result, contract requirements are later adjusted to reflect higher costs than those in the original Government estimate. There is a need for a generalized procedure to create PWSs that accurately reflect work tasks and standards. This example contains a description of the work that is usually required of a contractor to accomplish the mission of DOL Maintenance Division, including a section on the general operational and recordkeeping requirements, as well as the specific requirements for individual maintenance organizations.

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<sup>1</sup> OMB Circular A-76, *Performance of Commercial Activities* (Office of Management and Budget).

## **Objectives**

The objectives of this study were to: (1) create PWSs for the Fort Polk Directorate of Logistics (DOL) that accurately reflect the work tasks and standards of that organization, and (2) provide a model PWS to help other U.S. Army DOLs prepare PWSs for CA studies.

## **Approach**

The sample PWS described in Chapter 3 of this report was recently prepared for the Directorate of Logistics at Fort Polk as part of a CA review, conducted to determine if it would be more cost effective to perform the Directorate/Director of Logistics (DOL) maintenance activities in-house with the construction of a new consolidated maintenance facility, or to contract with a commercial firm to provide the services and the service facility on Army property. This document was prepared after a literature survey of previous PWSs, and a review of file copies of work descriptions in each functional area.

## **Scope**

This report contains a sample PWS specifically prepared for a CA study being conducted by the DOL at Fort Polk, LA. However, the framework for preparing a PWS is applicable to any U.S. Army installation.



## **2 BACKGROUND ON FORT POLK**

### **Overview of DOL Maintenance Division**

The Fort Polk DOL Maintenance Division's primary purpose is to provide support to the 5th Infantry Division (Mechanized). The 5th Infantry Division was transferred from Fort Carson, CO, to Fort Polk, LA, and from the Commander of Training and Doctrine Command (TRADOC) to the Commander of U.S. Army Forces Command (FORSCOM), on 22 September 1975. In addition to the 5th Infantry Division, the DOL assists the Information Systems Command, the Criminal Investigation Division, the Health Services Command, and the Select Forces Command units, as well as supporting nondivisional units, reserve components, and, through inter- and intraservice support agreements, all other organizations identified as Fort Polk's responsibility in AR 5-9, "Interservices Support Installation Area Coordination."<sup>2</sup> Among the organizations participating in the service support agreements are the National Guard, the Army Reserve Officer Training Corps (ROTC), and TRADOC basic training missions located throughout the states of Louisiana, Texas, and Arkansas.

The Division is structured in six major branches, each divided into sections and/or shops. The DOL administers and implements approximately 50 direct or general functions within this six-branch management system, including Management, Production Planning and Control, Quality Assurance, Shop Operations, Maintenance Assistance Training (MAIT), and Nuclear Weapons Support. Figure 1 shows a Management Chart illustrating the branches and some of the sections/shops and activities of the DOL Division.

### **Current Operations and Management System**

Current workloads have declined over the past 18 months at the DOL Maintenance Division to 100 new work orders per day. Completion of the work required occupies 171 personnel: 15 managerial, 32 clerical, 107 repairpersons, nine inspectors, and eight warehousepersons.

Three primary computer-based systems are used in managing the work, the inventory, and associated finances: the Maintenance Information Management System (MIMS), the Automated Retail Outlet System (AUTOROS), and the Standard Financial System (STANFINS). A fourth system, the Standard Army Intermediate Level Supply System (SAILS) is fed by AUTOROS and controls parts requisitioned from or through the Fort Polk Installation Supply.

### **Strategic Forecast**

The self-defined DOL Maintenance Division mission is to:

1. Perform Intermediate General Support (IGS) maintenance for all Table of Equipment (TOE) and Table of Distribution and Allowances (TDA) units on the installation and satellite units in accordance with higher headquarters support plans for all commodities of equipment less aircraft, medical, and specific missile systems

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<sup>2</sup> AR 5-9, *Inter Services Support Installation Area Coordination* (Department of the Army [DA], 1 March 1984).

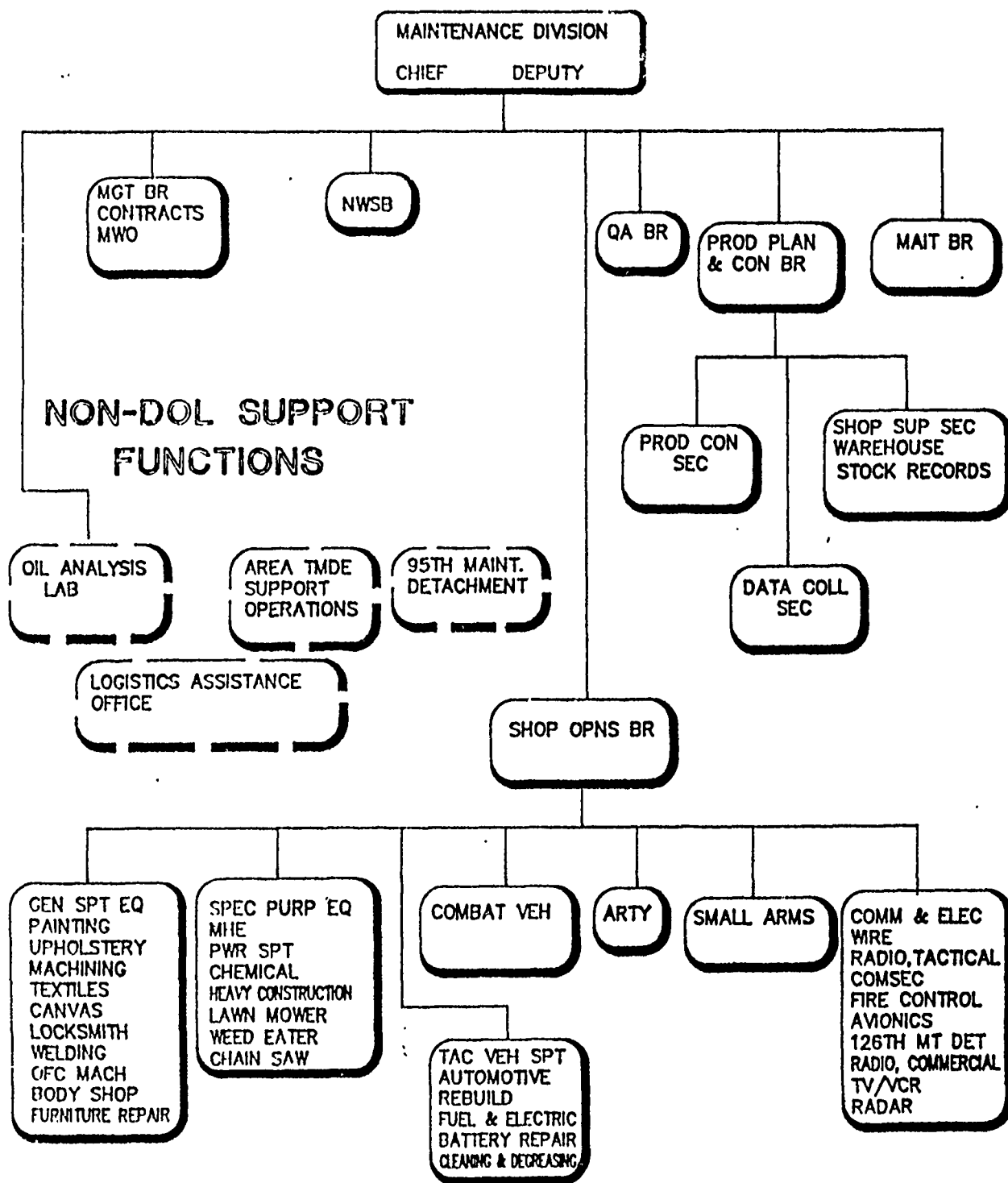


Figure 1. Support functions of Fort Polk DOL Maintenance Division.

2. Perform Intermediate Direct Support (IDS) maintenance for TDA activities and those TOE units not having an organization Direct Support (DS) maintenance capability
3. Perform backup or overflow DS maintenance for units with assigned DS capabilities
4. Provide on-the-job technical training of TOE maintenance personnel
5. Perform organizational maintenance when directed
6. Manage and monitor installation compliance with Department of the Army (DA) and/or Forscom maintenance programs such as Modification Work Order (MWO) Program, Army Oil Analysis Program, Army Recall Calibration Program, Command Logistics Supply Program (CLSP), Shelter Repair Total Assemblies Program (SRTAP), and (MLSP) Microfiche Logistics Support Program
7. Provide technical assistance and training in Nuclear Weapons Support Program (NWSP)
8. Maintain, service and control the use of the Operational Readiness Float for the installation
9. Operate and maintain the Installation Cannibalization Point.

The 99th Congress passed legislation which expanded the scope of the activities and/or services for which the Secretary of Defense may contract to include long term contracts for building and services. In essence, this legislation allowed the military to public/private partnership developments involving military projects. In the FY87 budget proposal submitted to Congress, the Secretary identified the candidate projects.

Although Congress has not actually authorized construction of the Consolidated Maintenance Facility, authorization was given to the Fort Worth District Engineer to undertake studies to pursue third-party contracting as a competitive alternative to traditional MCA development of the facility. The original PWS was developed to serve as part of the Request for Proposal (RFP) prepared by the Fort Worth District Corps of Engineers, to be distributed to potential third-party contractors. The PWS is used to develop the Quality Assurance (QA) Surveillance Plan and the resulting QA staffing requirements to perform QA Surveillance.

## Technical Exhibits

Appendix A lists Technical Exhibits developed for Fort Polk. Each installation should develop its own list of Technical Exhibits to be used in conjunction with this report. An installation should leave some Exhibit numbers open, designated as "Reserved." These Reserved numbers can be later assigned to additional Exhibits. When an installation decides to eliminate a certain Exhibit from its list, it can designate that number as Reserved without disrupting its numbering system.

References in this report to "Technical Exhibit \_\_\_\_" are provided to allow installations using this report as a guide to sequence their own Technical Exhibits.

### 3 SAMPLE WORK DESCRIPTIONS

#### Description of Work

##### *General*

This section describes tasks and standards required in all functional areas. Contract Line Item Numbering Systems (CLINS) applicable to this section are #0004-0023.

##### *Maintenance Request*

DA Form 2407<sup>3</sup> is being replaced by DA Form 5504.<sup>4</sup> For simplicity in the Request for Proposal (RFP), only the term DA Form 2407 is used unless otherwise noted. The DA Form 2407-1/5504-1 is the corresponding continuation sheet. Whenever an authorized customer presents a work item to the contractor for servicing, whether at the site of the work item or at the contractor's work area, during or after normal duty hours, the contractor shall:

1. Enter a job order number in the Work Order Number block of DA Form 2407. The contractor shall enter the appropriate account processing code (APC) in block 19 of DA Form 2407 (or Block 18 of DA Form 5504). The contractor shall also verify that the work item described on the DA Form 2407 is the work item presented for servicing. The contractor shall not accept a work item that is not accompanied by a DA Form 2407. The contractor shall not accept a work item if the description and serial number entered on DA Form 2407 does not correspond to the work item. The contractor shall examine the work item and verify that the item is complete; that all elements normally associated with the item are present, or that missing elements constitute the work to be done. The contractor shall then sign and enter the date in Block 24 of DA Form 2407 (or Block 35C of DA Form 5504) to indicate that the work item has been accepted, and will give the customer Receipt Copy No. 1 of DA Form 2407. The APC codes are listed in Technical Exhibit \_\_\_\_\_. The contractor shall usually reject incomplete work items, as defined above, but the contracting officer has the right to require that incomplete work items be accepted and that services be performed.

2. Perform an initial inspection of each accepted work item in accordance with appropriate Technical Bulletin (TB), Technical Manual (TM), Commercial Manual, and other guides. During the initial inspection, the contractor shall decide what services to provide (without relying solely on the representations of the customer). The contractor shall decide whether services are required for reasons other than fair wear and tear, and whether it is economical to service the work item. In making this decision, the contractor shall apply the appropriate maintenance expenditure limits (MEL) as outlined in AR 750-1.<sup>5</sup> If services requested or found necessary upon a technical inspection are needed because of fair wear and tear, and they are economical to perform, the contractor shall list all required parts by National Stock Number (NSN) or part number, quantity, and price on DA Forms 2407 and 2407-1. The contractor shall also ensure that NSN and prices are those reflected on the current Army Master Data File (AMDF).

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<sup>3</sup> DA Form 2407, "Maintenance Request" (DA, August 1988).

<sup>4</sup> DA Form 5504, "Maintenance Request" (DA, September 1988).

<sup>5</sup> AR 750-1, *Army Material Maintenance Policy and Retail Maintenance Operations* (DA, 31 October 1989).

3. Complete DA Form 2404<sup>6</sup> (Inspection Sheet) listing all work requirements found and identifying authorized levels of maintenance, when performing the initial inspections of automotive, combat vehicle, artillery, and special purpose equipment work items. The contractor shall give a copy of the DA Form 2404 to the customer, initial all deficiencies corrected on the DA Form 2404, and provide a copy to the customer upon completion of work requested.

4. Notify the customer and the contracting officer within 1 workday of required services on any item determined not to be economical to repair or damaged by reason other than fair wear and tear. The contracting officer may overrule the contractor's decision. The contractor shall not service a work item damaged by other than fair wear and tear until receiving a written release, completed in accordance with AR 735-5,<sup>7</sup> from the surveying officer, owning unit commander, or designated representative.

5. Notify, on the day the job is completed, on-post units and customers by telephone, and indicate on DA Form 2407 the name of the person contacted. The contractor shall also send written notification, within 3 workdays, to off-post units that could not be contacted by telephone.

6. Furnish units and customers with an equipment Status by Uniform Inventory Code (UIC) listing (MIMS Report P21MIMSO), of jobs completed that have not been picked up to date. The list shall be prepared weekly for on-post units and monthly for off-post units.

7. Receive seven types of maintenance requests: (1) repair as requested, (2) repair to technical manual (TM) standards for units, (3) repair the complete item, (4) repair to TM standards for Installation Supply Division (ISD), (5) technical inspection (TI), (6) fabrication, and (7) unit maintenance when directed by the contracting officer.

When receiving a "repair as requested" request, the contractor shall perform only the work the customer has described on the DA Form 2407. A request to apply a Modification Work Order (MWO) is a "repair as requested."

When receiving a "repair to TM standards" request, the contractor shall perform all IDS, IGS, and other authorized maintenance necessary to bring the item to TM standards, and any unit maintenance that must be performed to accomplish the IDS and IGS work. Other Authorized Maintenance is defined as maintenance allowed at the IGS level and approved in writing by FORSCOM. The contractor shall also provide the customer a list of all other unit maintenance requirements.

When receiving a "repair of the complete item" request, the contractor shall perform all unit, IDS, IGS, and other authorized maintenance necessary to return the item to TM standards.

When receiving a "repair to TM standards" request from ISD, the contractor shall perform all unit, IDS/IGS, and other authorized level maintenance necessary to bring the item to TM standards.

When receiving a "technical inspection (TI)" request, the contractor shall perform a complete technical inspection, listing all deficiencies on a DA Form 2404. The contractor shall provide the customer with a copy of the TI (DA Form 2404) upon completion of the inspection.

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<sup>6</sup> DA Form 2404, "Equipment Inspection Maintenance Worksheet" (DA, April 1979).

<sup>7</sup> AR 735-5, *Policies and Procedures for Property Accountability* (DA, 20 September 1989).

When receiving a TI for turn-in or classification request, the contractor shall comply with the following section on Technical Inspection for Turn-In. The contracting officer shall verify TIs for turn-in and classification. The contractor shall also perform estimated cost of damage (ECOD) inspections as the contracting officer requires.

8. Technical Inspection for Turn-In: The contractor shall perform inspections on or offsite as the contracting officer directs; inspect each item using the diagnostic procedures established in appropriate publications, and compare its condition to the standards established in those references. The contractor shall characterize the condition of the item using federal supply condition codes contained in Appendix C, AR 725-50,<sup>8</sup> "Requisitioning, Receipt, and Issue System." The contractor shall complete the appropriate forms as required by DA pamphlet (DA PAM) 738-750<sup>9</sup> and TB 43-002<sup>10</sup> series TBs. The contracting officer may overrule the contractor's determination of the item's condition. The contractor shall notify the customer when the work item is ready for pickup, and then return the work item and the appropriate form to the customer.

9. Upon receipt of a fabrication work request DA Form 2407 from an authorized customer, obtain signed approval on the DA Form 2407 from the contracting officer and proceed in accordance with established procedures. If the contracting officer disapproves the fabrication, the contractor shall close out the work request and notify the customer.

10. Perform unit maintenance beyond the unit's capacity when the contracting officer so directs either verbally or in writing.

11. Defer maintenance when in the best interest of the Government and the contractor. Deferred maintenance shall be approved by the contracting officer prior to returning the item to the customer. Occasionally, a unit shall have a piece of equipment in the contractor's shop and an urgent situation shall develop which requires the unit to withdraw the item. If the contractor is not working on the item and further use shall not cause damage, the contractor shall defer maintenance and have the unit pick up the item.

12. Complete all entries on the DA Form 2407 in accordance with DA PAM 738-750 and MIMS, U.S. Army TRADOC Manual 18-1-1-TSG.<sup>11</sup>

13. Labor Distribution and Status Cards. The contractor shall complete labor distribution cards and status cards in accordance with MIMS, USA TRADOC Manual 18-1-1-TSG.

#### *Materiel Maintenance Requirements*

The contractor shall:

1. Move equipment in and out of the shops and between work centers, using ground guides and approved safety procedures
2. Perform maintenance and repair in the most efficient and economical manner

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<sup>8</sup> AR 725-50, *Requesting, Receipt, and Issue System* (DA, 1 October 1987).

<sup>9</sup> DA PAM 738-750, *The Army Maintenance Management System (TAMMS)* (DA, 31 October 1989).

<sup>10</sup> TB 43-002 series, subject area: "Maintenance Expenditure Limits."

<sup>11</sup> TRADOC Manual 18-1-1-TSG, *Maintenance Information Management System (MIMS) User's Manual*.

3. Perform maintenance and repair actions consistent with the standards and specifications applicable to the specific equipment or items
4. Obtain the approval of the contracting officer before exceeding maintenance expenditure limits (MEL)
5. Obtain the approval of the contracting officer before performing repair work outside authorized maintenance levels
6. Provide on-site maintenance support when determined to be more cost-effective, upon the contracting officer's approval.
7. Upon customer acceptance of the DA Form 2407, transport or move equipment within the facility as necessary to perform repairs or maintenance
8. Apply mandatory, special-mission, and special-purpose modifications to selected equipment, upon the contracting officer's direction
9. Perform maintenance and repair on foreign and domestic commercial and military equipment
10. Assist customers in unloading and loading work items as deemed appropriate by their management staff
11. Manage repair of materiel, in accordance with Army regulation (AR) 750-1, by maintenance priority designator and an analysis of impact on unit readiness. The contractor shall also establish an internal priority system that. (1) provides first priority for intensively managed items, (2) provides a highest priority, (3) provides an oldest date, (4) paces items, and (5) accommodates special projects such as National Training Center rotation and REFORGER.
12. Evacuate specified work items to military maintenance units when the contracting officer so directs
13. Before returning the item to the customer, inspect and reject, using the same standards as in this contract, the completed work items that other units have repaired
14. Inspect any completed engines, including a run-in on dynamometers and submission of appropriate oil samples.
15. The Government reserves the right to balance workload among all maintenance activities located on post.

*Applicable Technical Standards Incorporated by Reference*

The contractor shall perform maintenance actions in accordance with the standards contained in the publications listed in Section C of the PWS, which describes applicable regulations, directives, and forms. The contractor shall present any conflicts with applicable standards to the contracting officer before performance of services.

### *Estimated and Actual Cost of Damage*

Upon request, the contractor shall prepare estimated and actual cost of repairs. These requests should be prepared in accordance with the format of Technical Exhibit \_\_\_\_\_. The contractor shall also deliver the estimated cost of damage (ECOD) to the customer within 5 workdays of receiving the written request, and shall deliver the actual cost of damage (ACOD) request within 10 workdays of completing the job.

### *Standards Applicable to All Work*

The contractor's work shall meet all standards appearing in this document, especially:

1. All corrections shall be made to any problems that customers have identified, or that the contractor has discovered through inspecting or working on an item. Items job-ordered only for "repair as requested" work shall be excepted from this criterion.
2. Methods and procedures should minimize the frequency of maintenance requirements.
3. All standards incorporated by reference shall be met.
4. Inspect and Repair: Repaired items shall be cleaned, inspected, repaired, tested, adjusted, gauged, and assembled to Technical Manual (TM) specifications by replacing only parts that do not meet or cannot be repaired to meet TM specifications.

### *Performance Periods*

In evaluating the contractor's performance in meeting turnaround times, the contracting officer shall consider variations in workload, changes in priorities, and the availability of parts, materials, and supplies. Specific performance periods for each functional area are determined by applicable regulations, directives, and priority codes.

Unreasonable failure of the contractor to order, stock, and issue parts, materials, and supplies shall not excuse untimely performance. The time period from submitting a requisition to the Government Supply System to the date the warehouse receives the part is not included in the calculation of turnaround times. The contractor shall expedite receipt of parts requisitioned by using follow-up procedures. The failure of the contractor's facility or equipment shall not excuse untimely performance.

### *Hazardous Materials*

Hazardous materials are identified and listed in the Code of Federal Regulations (CFR) 40, parts 260 and 261.<sup>12</sup>

The contractor shall generate, handle, store, transport, and dispose of hazardous materials in accordance with AR 200-1<sup>13</sup> and Fifth Infantry Division and Fort Polk (5ID&FP) Supplement 4 to AR 200-1.

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<sup>12</sup> Code of Federal Regulations (CFR) 40, "Protection of Environment" (Office of the Federal Register, National Archives and Records Administration).

<sup>13</sup> AR 200-1, *Environmental Protection and Enhancement* (DA, 15 June 1982).



1. Packing and crating of hazardous materials (chemical radioactive waste, carcinogenic materials, and ammunition) for handling or shipping is the responsibility of the contractor.

2. Radioactive materials shall be handled, stored, controlled, and disposed of in accordance with AR 385-11 and 5ID&FP Supplement 1. The contracting officer shall provide a Radiological Protection Officer in accordance with AR 50-5 and FORSCOM Supplement 1 to AR 50-5.

3. Hazardous compressed gases include, but are not limited to, O<sub>2</sub>, H<sub>2</sub>, CO<sub>2</sub>, and SO<sub>2</sub>. The contractor shall store, handle, use, and dispose of gases in accordance with AR 700-68.<sup>14</sup>

4. The contractor shall respond to hazardous waste or toxic substance spills in accordance with the local installation Handling and Control Procedures Plan, Hazardous Waste Management Plan, and 5ID&FP Supplement 2 to AR 200-1.

5. The contractor shall neutralize and dispose of used battery acid in accordance with AR 200-1 and 5ID&FP Supplement 4 (AR 200-1). Battery acid shall be neutralized to a pH of 6.8 to 7.2.

### *Reports*

The contractor shall provide follow-up and feedback to evaluate the operation's efficiency. The contractor shall also prepare and submit to the contracting officer weekly, monthly, and quarterly reports on workload accomplishment and statistics. Reports shall include, but shall not be limited to items such as: dollar amounts of inventories, backlog in number of items and days, and other pertinent management data concerning workload, workforce, and cost data. The contractor shall initiate or respond to approved recurring management information requirements in accordance with AR 335-11. The Production, Planning, and Control section of this document (p. 23) contains further detailed guidance and requirements for recurring and nonrecurring reports. Technical Exhibit \_\_\_\_ is a list of recurring reports.

### *Nonrecurring Reports*

The contractor shall provide management and technical information that the contracting officer requests, in the format and by the suspense date required. Such information may not be specifically addressed in the Contract Data Requirements List (CDRL). Typical requirements are:

1. Input for scheduled and unscheduled meetings
2. Evaluation of Model Installation Program suggestions
3. Group tours
4. Input for staff studies
5. Fact sheets

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<sup>14</sup> AR 700-68, *Storage and Handling of Compressed Gases and Gas Cylinders* (DA, 2 September 1971).

6. One-time reports
7. Equipment densities.

In addition to the daily status reports available through MIMS, the contractor shall provide the contracting officer with reports on the status of work items. The contracting officer shall request this information from the project manager, who shall then provide it within 1 hour of receipt of the request. Usually, the contracting officer shall make these requests by telephone and shall accept a return telephone response. These reports shall be provided approximately five times each month.

#### *Revisions/Updates*

The contractor shall prepare and submit to the contracting officer any recommendations, plans, and procedures for amending, revising, or originating government regulations or policies within the scope of this contract.

#### *Meetings*

When directed by the contracting officer, the contractor shall attend and participate in scheduled and unscheduled meetings. The contracting officer shall notify the contractor of the date, time, and place of each meeting. If the contractor is the DOL representative at meetings, conferences, or off-installation trips, the contractor shall furnish a report to the DOL through the contracting officer. Such meetings include weekly workload meetings with nondivisional units, and twice-monthly maintenance briefings with the Command Group. The contractor shall also participate in contingency planning, which occurs approximately three to four times per year.

#### *Files*

In accordance with AR 25-400-2,<sup>15</sup> the contractor shall maintain all unclassified and classified government-furnished files, in existence on the operations start date, and any files generated under this contract. All files are the property of the Government. The contractor shall provide security for classified documents in accordance with AR 380-5<sup>16</sup> and Department of Defense (DOD) Information Security Program Regulation (DOD 5200.1-R).<sup>17</sup> All records, files, reports, and data that the contractor deems sensitive shall be clearly labeled as such. Contractor classification determinations are not binding on the Government.

#### *Publications*

DA 12-Series Forms.<sup>18</sup> The contractor shall submit a completed original and three copies of DA 12-Series Forms, to the contracting officer within 10 working days of the start date of the operation. DA 12-Series Forms are reviewed for correctness and forwarded by the contracting officer to Headquarters, Department of the Army (HQDA), (DIAM-APD), Alexandria, Virginia 22331-0302. Classified service

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<sup>15</sup> AR 25-400-2, *The Modern Army Recordkeeping System (MARKS)* (DA, 15 October 1986).

<sup>16</sup> AR 380-5, *Department of the Army Information Security Program* (DA, 25 February 1988).

<sup>17</sup> DOD 5200.1-R, *Information Security Program Regulation* (Department of Defense [DOD], 1 August 1982).

<sup>18</sup> DA 12-Series Forms, see DA PAM 25-33, *The Standard Army Publication System (STARPUBS). Revision of the DA 12-Series Forms, Usages and Procedures* (DA, 1 June 1988).

accounts must also be forwarded through the major command point of contact (MACOM POC) as required in paragraph 3-14 of AR 310-2.<sup>19</sup>

Maintenance of Pinpoint Account. After receipt of a pinpoint account number from Baltimore Publication Center, the contractor shall maintain the account, making changes as required and updating the account quarterly in accordance with Memorandum of Instruction (MOI) concerning the Publications Pinpoint Account Monitoring Program. The contractor is advised that a pinpoint account establishes initial distribution only and shall not provide required publications immediately. The contractor shall use DA Form 4569<sup>20</sup> to obtain publications not provided by the contracting officer initial operation. The contractor's required initial publication shall be requested in accordance with DA Pamphlet 310-10,<sup>21</sup> using the DA PAM 25-30<sup>22</sup> (fiche). Upon receipt of publications from Baltimore Publication Center, the contractor shall monitor publications in accordance with AR 25-400-2 and its supplements.

Resupply System. For all publications received through the Pinpoint Distribution System (except classified documents), replacements or additional quantities shall be ordered on DA Form 4569-R.<sup>23</sup> The contractor shall maintain the initial distribution of military publications, posters, forms, and other information, through quarterly reviews and updates of DA 12-Series Forms and FORSCOM Form 12-R.

To request FORSCOM, 5ID&FP, and other publications, the contractor shall provide the contracting officer with the following documents within 10 workdays of the start date of operations:

1. Fort Polk Form List (FPFL) 152 (Duty Appointment). This designates the contractor's Publication Officer (who submitted the DA 12-Series Form).

2. DD Form 577.<sup>24</sup> (Signature Card). Two copies of DD Form 577 are required for each contract employee authorized to request and receive blank forms and publications from the Director of Information and Management (DOIM) Publications Center.

3. DA Form 17.<sup>25</sup> The contractor shall complete DA Form 17 for publications and blank forms resupplied by DOIM Publications Center.

To receive sensitive and accountable forms, all requests must be approved by the contracting officer, and DD Form 577 (Signature Card) must be annotated. The contractor shall submit to the contracting officer, for the officer's approval, requests for commercial manuals within 3 workdays after the need arises.

Forms. The contractor shall submit requests for blank forms through the contractor to DOIM Publications Officer.

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<sup>19</sup> AR 310-2 superseded by AR 25-30, *The Army Integrated Publishing and Printing Program* (DA, 28 Feb 1988) and AR 25-1, *The Army Information Resources Management Program* (DA, November 1988).

<sup>20</sup> DA Form 4569-R, "USARC Requisition Code Sheet" (DA, August 1979).

<sup>21</sup> DA PAM 310-10, *The Standard Army Publications System (STARPUBS): User's Guide* (DA, 1 October 1982).

<sup>22</sup> DA PAM 25-30, *Consolidated Index of Army Publications and Blank Forms* (DA, 31 December 1989).

<sup>23</sup> DA Form 4569-R, "USARC Requisition Code Sheet" (DA, August 1979).

<sup>24</sup> DD Form 577, "Signature Card" (DOD, May 1988).

<sup>25</sup> DA Form 17, "Requisition for Publications and Blank Forms" (DA, October 1979).

Errors in Government or Commercial Publications. The contractor shall identify errors in the Government publications pertinent to work performed under this contract. The contractor shall not perform work in accordance with erroneous references. The contractor shall notify the contracting officer that the Government reference is in error by completing a DA Form 2028<sup>26</sup> or DA Form 2028-2<sup>27</sup> and providing it to the contracting officer no later than the close of the workday following the discovery of the defect. The contracting officer shall direct the contractor to proceed in situations where an erroneous reference must be corrected before work can continue. The contractor shall also identify errors in commercial references and correct them as quickly as possible.

#### *Accountability and Control of Government-Furnished Property (GFP)*

The contractor shall maintain records of, and be responsible and account for Government-Furnished Property (GFP) in accordance with the Government Property (Cost-Reimbursement) clause of the contract, Part 45 of the Federal Acquisition Regulation (FAR), and the applicable documents listed below: AR 310-34, AR 340-1, AR 340-20, AR 340-22, AR 710-2, AR 735-72, and DA PAM 710-2-1,<sup>28</sup> and with all corresponding FORSCOM and SID&FP Supplements. The contractor shall maintain separate and distinct records by accounting classification of all GFP. The contractor shall prepare justification for additions to the equipment TDA and Common Table of Allowances (CTA); account for lost, damaged, or destroyed Government property; report excess GFP to the contracting officer; prepare necessary documents for disposing of excess equipment; and provide input data for the installation of automated property records.

The contractor shall conduct inventories of all GFP. Inventories shall be performed monthly, quarterly, semiannually, or annually, as stated herein and in accordance with AR 710-2. The contractor shall be responsible for durable and nonexpendable GFP in accordance with AR 710-2.

The contractor shall not cannibalize or modify any GFP, tools, or vehicles without the contracting officer's prior approval. The contractor shall not remove GFP from government property without the contracting officer's written approval.

#### *Maintenance, Repair, and Replacement of Failed GFP*

If failure of GFP occurs because of fair wear and not because of any fault of the contractor, the contractor shall prepare a Technical Inspection (TI) for turn-in, listing the estimated repair cost. The contracting officer reserves the right to replace that property or have the contractor do so at Government expense. The contractor may also offer contractor-owner property for lease as replacement for failed GFP. The Government reserves the right to lease such property or to approve contractor leasing of it.

Should the contracting officer approve the contractor's lease with option to buy, the contractor shall include in the lease a statement that the Government has the right to continue the lease and exercise all options in the event of completion or termination of the contract. The contractor shall not replace GFP or acquire additional property, for use during the contract period, without the contracting officer's prior approval.

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<sup>26</sup> DA Form 2028, "Recommended Changes to Publications and Blank Forms" (DA, February 1979).

<sup>27</sup> DA Form 2028-2, "Recommended Changes to Equipment Technical Publications" (DA, July 1979).

<sup>28</sup> AR 710-2, *Supply Policy Below the Wholesale Level* (DA, 13 January 1988); AR 735-72, *Accounting for Industrial Property and Equipment in Place* (DA, 1 June 1974); DA PAM 710-2-1, *Using Unit Supply System (Manual Resources)* (DA, 1 January 1982).

The contractor shall perform all maintenance tasks in accordance with the standards and at the frequencies described in applicable technical and commercial manuals. The contractor shall prepare, retain, and update the Preventive Maintenance and Schedule Record (DA Form 314).<sup>29</sup> The contractor shall initiate work request DA Form 2407 for repair of GFP as requirements occur.

#### *Fielding of Force Modernization Equipment*

The contractor shall assist in fielding Force Modernization (Force Mod) Equipment. The contractor shall provide services for contractors and/or depot teams in deprocessing new Force Mod systems as needed. The contractor may be required to provide special equipment that Force Mod Teams could not bring, or to perform tasks including, but not limited to, camouflaged painting of equipment and/or welding. The schedule of new Force Mod systems to be fielded are contained in Technical Exhibit \_\_\_\_\_. The contractor shall provide those services specified in the individual fielding plan for each system as the fielding plan is received.

The contractor shall perform deprocessing actions for incoming equipment as specified on the DA Form 2407 that the customer has submitted. The contractor shall perform inspections to determine required repairs or warranty defects. The contractor shall be required to perform deprocessing actions in accordance with applicable technical manuals or specific instructions provided by Army Materiel Command (AMC), commercial manufacturers, or the contracting officer. The contractor shall be required to deprocess equipment both in-shop and on-site as requirements occur. The contractor shall account for these costs separately to facilitate billing the appropriate customer.

#### *Standard Labor Hour Requirements*

The contractor shall develop estimated standard labor hour requirements (performance standards) for all required maintenance tasks and shall submit these standards to the contracting officer for approval prior to the Operations Start Date. The contractor shall submit to the contracting officer, within 10 workdays prior to the requested effective date, requests for changes to these standards for the Officer's approval.

The contracting officer may adjust these standards based on the historical performance of maintenance tasks and annotate these estimated standard labor hour requirements on DA Form 2407. Only Copy No. 2 of DA Form 2407 needs annotated labor hour requirements annotated. The contractor may propose to the contracting officer an alternate method of developing and annotating standard labor hour requirements.

#### *Retest or Inspection of Work Items*

The contractor, as directed by the contracting officer, shall perform a retest or inspection of work items awaiting pickup. The number of items retested or inspected shall not exceed 5 percent of the total of all work items.

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<sup>29</sup> DD Form 314, "Preventive Maintenance and Schedule Record" (DOD, December 1953)

## Technical Inspections

### *Scope*

This section describes tasks and standards required of technical inspection services, which involve performing technical inspections on items submitted for maintenance, repair, or turn-in.

### *Tasks*

The contractor is required to:

1. Accept equipment or items only from authorized customers, at the appropriate level of maintenance support, as specified in Technical Exhibits \_\_\_\_\_.
2. Verify that equipment meets acceptable conditions as specified in the section on Commercial Radio Systems Repair, and that unserviceable conditions exist because of fair wear and tear (FWT). The Government reserves the right, through the contracting officer, to direct the contractor to reject items on which lower-level maintenance has not been performed.
3. Verify that equipment damaged by other than FWT has been properly released from investigation or report of survey, prior to acceptance.
4. Ensure that equipment is accompanied by required logbook forms, if applicable, and a correctly prepared DA Form 2407, Maintenance Request (as specified in DA PAM 738-750).
5. Ensure that equipment is free from hazardous or explosive materials. Should such materials be found, the contractor shall immediately call the contracting officer for further guidance.
6. Perform an initial inspection to determine work, parts, and estimates, or Government-approved standard labor hour requirements, and annotate all copies of DA Form 2407 with work and parts. Annotate only Copy No. 2 of DA Form 2407 with labor-hour requirements.
7. Perform in-line (in-process) inspections to identify or verify any additional maintenance or parts requirements, and verify that work is performed in accordance with established standards and specifications.
8. Perform final inspections to verify that maintenance actions accomplished agree with those required by the work request, and that the equipment or item meets serviceability standards.
9. Update logbook forms with completed maintenance and repair information.
10. Prepare cost estimates and determine repair eligibility based on repair costs, item age, mileage, required maintenance actions.
11. Provide reports, evaluations, and technical exhibits for equipment on work orders that are under investigation, and when otherwise required by the contractor.
12. Perform verification and classification inspections.

### *Performance Standards*

The contractor shall conduct and record the results of technical inspections, maintenance, and repair in accordance with AR 700-88, AR 702-8,<sup>30</sup> AR 735-5, AR 750-1, DA PAM 738-750, TRADOC MIMS Manual 18-1-1-TSG, and any applicable equipment technical manuals and technical bulletins, specifications, procedures, and maintenance allocation charts (MACS).

A list of contractor personnel who are assigned stamps shall be furnished to the contractor and updated as changes occur. Any deferred maintenance requests shall be accepted for the correction of non-deadlining faults on equipment and only upon the customer's request.

### *Performance Periods*

The following time limits shall be placed on specific tasks:

1. ECODs shall be completed within 5 workdays of receipt of request. ACODs shall be completed within 10 workdays of job completion.
2. The contracting officer shall be notified within 1 workday when initial inspection of equipment or items indicate that maintenance expenditure limits (MEL) or authorized maintenance levels of repair shall be exceeded.
3. Verification inspections shall be completed within 5 workdays of receipt of request.

### **Production, Planning, and Control (PP&C)**

#### *Scope*

This section describes tasks and standards required of production, planning, and control services. These services involve: (1) receiving, initiating, maintaining, and completing work orders entered into the required Government-furnished automated system (currently MIMS), (2) planning, scheduling, and expediting maintenance requests through shop work centers, (3) operating the required automated system as outlined in TRADOC MIMS Manual 18-1-1-TSG, and (4) implementing all Government-authorized changes or replacing existing systems when directed by the Government. The contractor may design an internally automated data management system to include input and output devices that can interface with the Government-furnished automated systems. Any such system must be fully compatible with Government systems, and must allow required outputs to be generated. Technical Exhibit\_\_\_\_ displays the number of work orders completed for each functional area.

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<sup>30</sup> AR 700-88, *Commercial Design Vehicles FSC Class 2300* (DA, 22 June 1972); AR 702-8 superseded by AR 750-1, *Army Material Maintenance Policy and Retail Maintenance Operations* (DA, 31 October 1989).

## Tasks

The contractor is required to:

1. Gather and input data on a daily, weekly, or monthly basis, and as otherwise required by the contracting officer. This data includes, but is not limited to, status and labor distribution cards and appropriate copies of DA Form 2407/2407-1, to provide the listings set forth in the MIMS Manual.
2. Receive, establish, and maintain a valid DA Form 1687<sup>31</sup> (Signature Card) on file for each authorized customer. The contracting officer shall provide a listing by the operations start date of authorized customers, and shall verify that the person whose signature appears in Block 23 of the Maintenance Request form is on the current DA Form 1687 and authorized to submit work orders. The contractor shall also return expired signature cards to the units and refuse service until new cards are received, except for work requests that the contracting officer has approved.
3. Verify that priorities on the work orders, submitted by the units, are in accordance with AR 750-1.
4. Establish and maintain Maintenance Request Registers (DA Form 2405)<sup>32</sup> or an Army Data Processing Equipment (ADPE) system with a sequential numbering system for work orders. A sample of a completed DA Form 2405 is provided as Technical Exhibit \_\_\_\_.
5. Accept only those forms completed in accordance with the regulations cited on the forms themselves, and process all forms through appropriate maintenance channels.
6. Allow customers to pick up equipment only upon producing Receipt Copy No. 1 of DA Form 2407. If Copy No. 1 has been lost, the contractor shall require a Disposition Form (DF) from the unit commander stating that the original hand receipt (Copy No. 1 of DA Form 2407) has been lost. The contractor shall also require the customer to sign the Maintenance Register when the item is picked up. The contractor shall also retain the DF received from the unit commander for a period of 1 year.
7. Minimize the turnaround time of equipment repaired for supported units in accordance with AR 750-1, Appendix F. The contractor shall also change priorities on a unit's DA Form 2407 upon receipt of the unit commander's written request.
8. Report to the contracting officer any production stoppage within 1 duty day of the stoppage. The contractor shall request assistance from the Government on zero-balance items that have established long lead times.
9. Edit, code, and enter information from maintenance forms and other records into MIMS in accordance with TRADOC MIMS Manual 18-1-1-TSG. The contractor shall also correct mistakes in editing, coding, or entering of such information.
10. Attend scheduled and unscheduled materiel maintenance and workload meetings, and providing current status and Estimated Completion Date (ECD) on work items covered by this contract using the

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<sup>31</sup> DA Form 1687, "Signature Card" (DA, January 1982).

<sup>32</sup> DA Form 2405, "Maintenance Request Register" (DA, April 1962).



format provided in Technical Exhibit \_\_\_\_\_. The contractor shall provide a current end-item list of CANN Point assets for distribution during maintenance management meetings and as directed by the contracting officer. (See Technical Exhibit \_\_\_\_\_.) The contractor shall also provide the current status and availability of Operational Readiness Float (ORF) items at weekly maintenance management meetings and as directed by the contracting officer. (See Technical Exhibit \_\_\_\_\_.)

11. Make all necessary changes to DA Forms 2407, 2405, and MIMS pertaining to Operational Readiness Float transactions when the contracting officer so directs.

12. Provide customer assistance in areas including, but not limited to:

- a. Job order status
- b. Requisition numbers
- c. Telephonic requests
- d. Estimated completion dates (ECD)
- e. Copies of completed work orders
- f. Verification of serial numbers for change of command requirements
- g. Copies of equipment status by UIC
- h. Reports of survey.

13. To preclude or alleviate work stoppages caused by the unavailability of repair parts or nonmission-capable items, the contractor shall initiate appropriate action to obtain repair parts. Such action includes:

- a. Submitting production-line messages through the contracting officer to the appropriate National Inventory Control Point (NICP) for action.
- b. Requesting logistics assistance from the Installation Material Maintenance Officer (IMMO) and Logistics Assistance Officer (LAO).
- c. Screening CANN Point assets in accordance with the section on Cannibalization Point Operation.
- d. Coordinating cannibalization of material and controlled exchange in accordance with AR 750-1.

When repair parts that affect combat readiness are not available within the standard delivery time (DA PAM 710-2-2)<sup>33</sup>, the contractor shall initiate the actions that this section describes. The contractor shall not be relieved of meeting turnaround time (AR 750-1) unless all of the above steps have been taken.

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<sup>33</sup> DA PAM 710-2-2, *Supply Support Activity Supply System: Manual Procedures* (DA, 1 March 1984).

## *Reports*

The terms daily, weekly, monthly, quarterly, and yearly are defined as follows: *daily* means the previous business day; *weekly* is the previous business week plus 3 workdays; *monthly* is the previous business month plus 5 workdays; *quarterly* is the previous 3 business months plus 10 workdays; and *yearly* is the previous business year plus 20 workdays.

The contractor is required to:

1. Prepare and distribute copies of MIMS and AUTOROS listings with appropriate cover sheets as the contracting officer directs. MIMS and AUTOROS listings and reports are listed in Technical Exhibit\_\_\_\_.
2. Provide information for, prepare, and submit a quarterly General Support Repair of Selected Assemblies Report (FORSCOM Form 130-R) to the contracting officer. This report should be submitted no later than the second workday following the cutoff date for MIMS reporting. Information for this report should be obtained from the quarterly MIMS report, the Installation Supply Division, and internal reports. The contractor also shall provide a monthly revised informal working copy of the General Support Repair of Selected Assemblies Report (FORSCOM Form 130-R).
3. Prepare the monthly Maintenance Production/Backlog Report in accordance with DA Form 2418,<sup>34</sup> prepare an explanation to accompany it, and submit both to the IMMO through the contracting officer.
4. Collect data for the Operational Readiness Float (ORF) Status and Utilization report (FORSCOM Form 589-R).
5. Submit the status of selected, intensively managed assemblies and items in the format specified by the contracting officer.

## *Performance Standards*

The contractor is required to:

1. Establish a system where daily raw data for MIMS is submitted in a timely manner to generate daily, monthly, and quarterly reports, as specified in TRADOC MIMS Manual 18-1-1-TSG.
2. Establish a system where raw data errors shall be corrected no later than 1 workday after that data has been initially submitted.
3. Provide error-free status within 1 duty day. This should be accomplished by entering corrections for any errors that occurred the previous day.
4. Schedule all work in accordance with AR 750-1, TRADOC MIMS Manual 18-1-1-TSG, and the section on Description of Work, Materiel Maintenance Requirements: Part 11.

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<sup>34</sup> DA Form 2418, "Backlog Status and Workload Accounting Card" (DA, January 1970).

5. Maintain all completed work requests (DA Form 2407) in accordance with DA PAM 738-750.

### *Performance Periods*

Information for all maintenance management meetings shall be completed by close of business of the day preceding the meeting. The contractor must:

1. Submit the MIMS Maintenance Production Backlog Report to the contracting officer for approval no later than 3 workdays after the established monthly cutoff date.
2. Prepare and submit to the contracting officer the Operational Readiness Float (ORF) Status and Utilization Report (FORSCOM Form 589-R) on an annual basis within 14 workdays of the start of a new fiscal year.
3. Notify the originator of illegible or incorrect source documents within 1 workday of receipt, and identify problem areas to the originator.
4. Enter all information generated during normal operating hours, into the systems by close of business the following duty day.

### **Maintenance Shop Supply Operations**

#### *Scope*

This section describes tasks and standards required in the operation of a Maintenance Shop Supply that provides repair parts and related support to contractor-operated maintenance activities. Tasks include requisitioning, receiving, locating, storing, and issuing parts and supplies. The Maintenance Shop Supply operations shall be accomplished using the Shop Supply subsystem of the Automated Retail Outlet System (AUTOROS) in accordance with TRADOC User's Manual 18-1 1-XSA and as the contracting officer directs. The contractor shall provide various Data Management System (DMS) inquiries for special reports. The contractor may design an internal automated data management system to include input and output devices that shall interface with the Government-furnished automated systems. Any such system must be fully compatible with Government-furnished systems, and must allow required outputs to be generated. Technical Exhibit \_\_\_\_\_ displays examples and frequency of work requirements.

#### *Tasks*

The contractor is required to:

1. Operate a POL Point in accordance with applicable regulations, and provide fuel for vehicles received in Maintenance to permit testing procedures (initial inspection, road test at time of final test, and engine dynamometer testing).
2. Operate a demand-supported shop stock, programmed stock, bench stock, and other stock that the contracting officer specifies. Examples include seasonal, force modernization, and upgrade programs : DA directs. See Technical Exhibit \_\_\_\_\_.

3. Identify parts required to meet turnaround times as established in DA PAM 738-750 for "mission-essential" parts; submit the requisition to the contracting officer for approval to establish stockage and reorder point levels higher than supported by demands; code the AUTOROS files with this information.

4. Conduct follow-up procedures on requisitions in accordance with AR 700 Series regulations, review deadlined jobs weekly, determine status of due-in parts, and request assistance from the contractor if problems occur.

5. Edit all requisitions, using the Army Master Data File (AMDF) or other supply catalogs.

6. Requisition all repair parts with an assigned National Stock Number (NSN) through the Army Wholesale Supply System; check NSNs not in AUTOROS against supply catalogs, and load information into AUTOROS to establish a file for that NSN. Parts identified by a manufacturer's part number shall be cross-referenced, using appropriate supply catalogs, to determine the possibility of a valid NSN. The contractor shall requisition commercial repair parts that cannot be cross-referenced to an NSN, or that are coded local purchase (LP), by the Wholesale System, through the Contractor-Operated Parts Store (CORPARS) or ISD as directed by the contracting officer. The requisitioned quantities and stockage levels of these items shall be in accordance with AR 700 series regulations.

7. Requisition items of supply listed on the Army Master Data File (AMDF) by the AMDF unit of issue, and establish a unit of consumption for issue to the customer.

8. Verify that the items received are the items requisitioned, that the quantity received is the quantity requisitioned, and that an item is an authorized substitute. The contractor shall also document and submit SF-368 (Report of Item Discrepancy), in accordance with AR 700 series regulations for shortages, overages, and damage that occurred in shipment. The contractor shall also identify any items received for which the original documents are missing.

The contractor shall unload, open, unpack, warehouse, and issue supplies; operate any equipment required to offload, transport, or position supplies for issue or storage; warehouse items of supply for all jobs to ensure speedy location and retrieval of items; and store items of supply in designated bin locations. The contractor shall receive and warehouse Modification Work Order (MWO) kits on same day received, and shall not open the MWO kits.

9. Issue items of supply only upon receipt of a valid written request including, but not limited to, DA Form 3161, DA Form 2765-1,<sup>35</sup> DA Forms 2407/2407-1, or as directed by the contracting officer. The contractor shall issue items listed on DA Form 3161/2765-1 or other Government-approved forms to requesting units if items are not available at Installation Supply Division (ISD) or Division Material Management and the contracting officer has authorized the issue. The contractor shall ensure that the appropriate APC is annotated on the forms.

After duty hours, the contractor shall issue parts on an emergency basis when the contracting officer so directs. This shall occur approximately four times per year. The contractor shall perform an audit of supply records in conjunction with the physical inventory of assets, annotate all overages and shortages

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<sup>35</sup> DA Form 3161 "Request for Issue or Turn-in" (DA, May 1982), DA Form 2765-1, "Request for Issue or Turn-in" (DA, April 1976).

on the AUTOROS Inventory Adjustment Report (IAR), and perform research to determine causes of overages and/or shortages.

10. For recoverable/nonexpendable components, the contractor shall establish and administer a suspense file on recoverable items to include Automatic Return Items (ARIs).

### *Performance Standards*

The contractor's work shall meet the following standards:

1. Manual data entries on all supply and maintenance records shall be accurate, complete, and legible on all copies.
2. All maintenance and supply records shall be filed in a systematic, orderly manner that facilitates quick retrieval.
3. Entries into the automated system shall be error-free.
4. Material designated for outside storage shall be resistant to weather conditions.
5. Material shall not be stacked if stacking creates damage or unsafe working conditions.
6. Material received or issued shall be handled in a manner to prevent damage to the items.

### *Performance Periods*

1. The following time limits shall be placed on specific tasks: entries into all ADPE systems shall be made not later than the close of the business day following the event requiring the entry.
2. All items received during the workday shall be unpacked, verified, and warehoused no later than the close of the workday following receipt.
3. The contractor shall resubmit corrected requisitions for all canceled or rejected requisitions within 2 workdays after notification of cancellation or rejection, and shall correct the appropriate AUTOROS files.
4. The contractor shall notify the contracting officer of the type and number of MWO kits received within 1 workday.
5. The contractor shall deliver MWO kits to the appropriate location within 1 workday when the contracting officer so directs.
6. The contractor shall pick up and ship excess MWO kits, when the contracting officer so directs, within 2 workdays.
7. The contractor shall recover and return unserviceable ARI items within 10 workdays after receipt of serviceable items. ARIs shall be returned to the Installation Supply Division (ISD) as obtained.

8. The contractor shall identify, document, and deliver all excess or directed items of supply to the Installation Supply Division (ISD) within 10 days after these assets are identified.

## **Tactical Communications Equipment Repair**

### *Scope*

This section describes tasks and standards required to perform unit, intermediate direct support, and intermediate general support maintenance and repair on various types of equipment. These include, but are not limited to, LF, MF, HF, VHF, and UHF receivers, transmitters, transceivers, and radio sets with AM, FM, CW, SSB, and pulse-mode capabilities; various circuit cards and modules; RATT (Radio Teletypewriter units) rigs, communication shelters, vehicle intercom systems, radio communication systems, and associated wiring and equipment and power circuits; on-site repairs on numerous radio/intercom system configurations in all types of communication shelters or tracked vehicles; turret electrical repair relating to communications, involving slip rings, contactor blocks, brushes, and interconnecting cabling; antennas; and antenna matching units. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Troubleshoot, repair, align, adjust, and test items.
3. Replace, repair, adjust, and align modules.
4. Repair and provide physical security for sensitive items.
5. Troubleshoot, repair, remove, install, and test communications systems in trucks, vans, shelter units, and combat vehicles, including interrelated cables, harnesses, and power-lead assemblies.
6. Provide technical inspection, receiving and shipping, and other necessary support for various electronic and communications equipment that may be involved with the CLSP, the MLSP, the SRTAP and other special projects that may occur.
7. Repair equipment on an emergency basis as the contracting officer directs. See the section on Description of Work regarding specific tasks and guidance.

### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work.

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## **Wire Communications Equipment Repair**

### *Scope*

This section describes tasks and standards required to perform unit, intermediate direct support, and intermediate general support maintenance and repair on wire communications equipment. This includes, but is not limited to: power supplies, motor generators, multifunction equipment, data multiplex and multichannel equipment, post classroom and conference room intercom and public address systems; slide, overhead, and film projectors; film developing and processing equipment, photography equipment, chemical alarm sets, (metal) mine detectors, teletype machines, switchboards, and telephone-related items; nickel-cadmium batteries, voltage and current regulators, microfilm readers, cables, field telephones, microphones in combat vehicular communication (CVC) and flight helmets, battery chargers, telegraph equipment, keyboard lettering equipment, and Army Oil Analysis Program (AOAP) lab equipment. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Replace, repair, adjust, and align modules.
3. Repair and provide physical security for sensitive items.
4. Troubleshoot, repair, remove, install, and test communications systems in trucks, vans, shelter units, and combat vehicles, including interrelated cables, harnesses, and power-lead assemblies.
5. Repair equipment on an emergency basis as the contracting officer directs.

### *Performance Standards*

The Contractor's work shall meet the standards set forth in the section on Description of Work.

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## **Fire Control Equipment Repair**

### *Scope*

This section describes tasks and standards required to perform unit, intermediate direct support, and intermediate general support maintenance and repair on fire control equipment. They include, but are not limited to, optical devices such as stereoscopic and coincidence range finders, optical tracking cine theodolites, night-vision instruments, astrotrackers, autocollimators, target acquisition devices, fire devices and cameras, Battalion Commander (B.C.) telescopes, elbow telescopes, panoramic telescopes, periscopes, straight-line-of-sight telescopes, aiming circles, compasses, sight mounts, quadrants and instrumental lights, collimators, azimuth indicators, ballistic computers, and other special fire-control devices submitted for repair. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and associated maintenance on DA Form 2407 for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Remove, repair, install, replace, modify, align, adjust, collimate, calibrate, and synchronize sighting and fire-control instruments.
3. Clean, spot paint, and refinish exterior surfaces, including dials, knobs, and scale indicators.
4. Pack, preserve, and dehumidify items that require protective storage such as range finders.
5. Repair and provide physical security for sensitive items.
6. Repair equipment on an emergency basis as the contracting officer directs.

### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work, Standards Applicable to All Work.

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.



## **Commercial Equipment Repair (Television, Video Recorders, Sound Equipment)**

### *Scope*

This section describes tasks and standards required to perform all levels of maintenance and repair on commercial equipment, including, but not limited to, record and playback music and stereo systems, record players, audio and video recorders and playback units, microphones, speakers, amplifiers and related equipment, television sets, video monitors, security surveillance systems, electronic musical instruments, video cameras, and other special audio/visual devices submitted for repair. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair, as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Troubleshoot, repair, and test items.
3. Install, repair, adjust, and align modules, assemblies, and complete items.
4. Repair and provide physical security for sensitive items.
5. Repair equipment on an emergency basis as the contracting officer directs.

### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work.

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## **Avionics Equipment Repair**

### *Scope*

This section describes tasks and standards required to perform unit, IDS/IGS support maintenance and repair on avionics equipment including, but not limited to, VHF radios, UHF radios, both AM and FM, SCAS, VOR, ADF, IFF Radar Systems, DME, Doppler Navigation Equipment, Radar Altimeters, Aircraft Gyro-Magnetic Compass Systems, and aircraft intercom systems. Aircraft wiring equipment

includes, but is not limited to, avionic equipment control wiring and aircraft intercommunications systems wiring. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

2. Troubleshoot, repair, and test items.

3. Install, repair, adjust, and align modules, assemblies, and completed items.

4. Repair and provide physical security for sensitive items.

5. Troubleshoot, repair, install, and test communications systems and navigation equipment in fixed and rotary wing aircraft, to include interrelated cables, harnesses, power-lead assemblies, and antennas.

6. Repair equipment on an emergency basis as the contracting officer directs.

### *Performance Standards*

The contractor shall meet the standards set forth in the section on Description of Work, Standards Applicable to All Work.

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## **Commercial Radio Systems Repair**

### *Scope*

This section describes tasks and standards required to perform all levels of maintenance and repair on commercial radio systems, including, but not limited to, mobile radios, wiring systems and antennas of mobile radios, base stations, antennas and antenna mounts, electronic sirens and light bars, base station remote controls (both tone and direct current [DC] control), pagers, hand-held radios, scanners, military citizens band, recording devices, hand-held radio charging units, microphones, and cabling. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Meetings.
2. Troubleshoot, repair, and test items.
3. Install, repair, adjust, and align assemblies and complete items.
4. Repair and provide physical security for sensitive items.
5. Troubleshoot, repair, install, and test communications systems in trucks, vans, and shelter units, including interrelated cables, harnesses, and power-lead assemblies.
6. Repair equipment on an emergency basis as the contracting officer directs.

### *Performance Standards*

The contractor's work shall meet all standards set forth in the section on "Description of Work; Standards Applicable to All Work." (p. 16)

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## **Radar Equipment Repair**

### *Scope*

This section describes tasks and standards required to perform unit, intermediate direct support, and intermediate general support maintenance and repair on radar equipment, including, but not limited to: fire automatic data artillery computer; radar chronographs and other similar components or equipment; tacfire computer systems; laser equipment and systems; training devices and pneumatic, hydraulic, and mechanical-associated support equipment systems; searchlights; artillery radar tracking systems; fire control radar; and personnel movements radar. Technical Exhibit \_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning,

and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

2. Troubleshoot, repair, and test items.
3. Install, repair, adjust, and align assemblies and complete systems.
4. Repair and provide physical security for sensitive items.
5. Repair equipment on an emergency basis as the contracting officer directs.

#### *Performance Standards*

The contractor's work shall meet all standards set forth in the section on Description of Work, Standards Applicable to All Work.

#### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

### **Joint Services Interior Intrusion Detection System (JSIIDS) Equipment Repair**

#### *Scope*

This section describes tasks and standards required to perform all levels of maintenance and repair on JSIIDS equipment.

#### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 12.

2. Troubleshoot, repair, and test items.
3. Install, repair, adjust, and align assemblies and complete units.
4. Repair and provide physical security for sensitive items.

5. Make on-site repairs by replacing defective units, circuit cards, power supplies, and sensors, as necessary, to restore proper operations. Repair Central Alarms Monitoring Station (CAMS) room equipment and all systems installed therein. Troubleshoot control items for fault determination and isolate problems such as telephone cabling for other agencies to repair. Make emergency callouts, as determined

by the contracting officer, to restore necessary physical security protection, and repair defective equipment in shop environment to restore original operation by replacing transistors, transformers, resistors, and other electronic components that may have failed. Test for proper operation using multimeters, oscilloscopes, frequency counters, and other specialized devices as required. Troubleshooting defective control or signal lines may require climbing ladders in ceilings and crawling under buildings.

6. Repair JSIIDS equipment on an emergency basis as the contracting officer directs. Report to the customer's work site within 4 hours of receiving an emergency request. Emergency repairs are required approximately 10 times per year. The contractor shall also repair equipment on a nonemergency basis at the customer's work site approximately 70 times per year.

#### *Performance Standards*

The contractor shall meet all standards set forth in the section on Description of Work, Standards Applicable to All Work.

#### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

### **Communications Security (COMSEC) Equipment Repair**

#### *Scope*

This section describes tasks and standards required to perform unit, intermediate direct support, and intermediate general support maintenance and repair on COMSEC equipment, such as fixed station, backpack or airborne electronic systems and devices, teletype encryption equipment, IFF transponder systems, and other encryption devices. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

#### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 12.
2. Troubleshoot, repair, and test items.
3. Disassemble, repair, reassemble, adjust, align, and test equipment.

4. Maintain DA Form 1999-R (Restricted Area Visitor Registers)<sup>36</sup> for signing in and out visitors who may require entrance for building maintenance or services.

5. Maintain DD Forms 1435,<sup>37</sup> COMSEC Maintenance Training and Experience Records for COMSEC and CCI maintenance personnel (per AR 750-1) and repair personnel.

6. Store and provide security for COMSEC equipment as specified in AR 380-5, AR 190-11, and AR 190-13.<sup>38</sup>

7. Control access to COMSEC facilities and equipment, and allow access to only those personnel granted access by written approval of the contracting officer.

8. Repair equipment on an emergency basis. The contractor shall also respond to callouts from the contracting officer to reset the JSIIDS alarm system in the COMSEC vault.

#### *Performance Standards*

The contractor shall perform maintenance and repair on COMSEC equipment in the manner most economical to the Government and consistent with the standards, specifications, economical repair limits, and expenditure limit criteria specified in applicable equipment technical publications.

The contractor shall also comply with AR 750-1, AR 25-400-2, AR 380 series, AR 640-15,<sup>39</sup> AR 190-11, AR 190-13, and applicable DOD, National Security Agency (NSA), and DA policy and guidance.

The contractor shall annually update DD Form 1435 and shall comply with safeguards, standard criteria, responsibilities and requesting, accounting, receiving, stocking, and reporting procedures as specified in TB 380-41 and AR 380-40.<sup>40</sup>

#### *Performance Periods*

The contractor shall complete items scheduled, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

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<sup>36</sup> DA Form 1999-R, "Restricted Area Visitor Register" (DA, January 1988).

<sup>37</sup> DD Form 1435, "COMSEC Maintenance Training and Experience Records" (DOD, April 1982).

<sup>38</sup> AR 380-5, *Department of the Army Information Security Program* (DA, 25 February 1988); AR 190-11, *Physical Security for Arms, Ammunition, and Explosives* (DA, 31 March 1986); AR 190-13, *The Army Physical Security Program* (DA, 20 June 1985).

<sup>39</sup> AR 640-15, *Criterion for Ensuring the Competency of Personnel To Install, Maintain, and Repair Communications Security Equipment* (DA, 4 September 1974).

<sup>40</sup> TB 380-41, *Procedures for Safeguarding, Accounting, and Supply Control of COMSEC Material* (DA, 1 July 1981); AR 380-40, *Policy for Safeguarding and Controlling COMSEC Information* (DA, 1 June 1982).

## Heavy Engineering Equipment Repair

### *Scope*

This section describes tasks and standards required to perform unit, intermediate direct support, and intermediate general support maintenance and repair on construction equipment, including, but not limited to, crushers, pavers, mixers, earth movers, tractors, graders, cranes, loaders, rollers, dozers, loader-backhoes, rough-terrain forklifts, wheel-mounted cranes, ditch diggers, earth augers, pile drivers, heavy truck-tractors, and heavy trailers. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule equipment and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Troubleshoot, diagnose, and isolate equipment malfunctions and causes of malfunctions.
3. Remove, install, replace, modify, and repair major assemblies and components of equipment, such as engines, transmissions, transfers, differentials, final drives, axles, and auxiliary power units.
4. Remove, install, replace, and repair electrical, hydraulic, fuel, steering, air, cooling, winching, and brake systems.
5. Remove, install, replace, and repair track, hubs, wheels, idlers, and tires.
6. Remove, install, replace, and repair buckets, scarifiers, grader blades, and booms.
7. Correct safety faults and other deficiencies that may endanger personnel or damage equipment.
8. Perform hydrostatic tests on dry-chemical and carbon-filled fire extinguishers.
9. Forward to the AOAP Oil Laboratory an oil sample from all end items enrolled in the AOAP within 1 day of the shop's receipt of the end item. The contractor shall also review the results of the oil sample and correct any deficiencies of affected components and assemblies. The contractor shall take and forward an additional oil sample upon completion of work requested for all items enrolled in the AOAP. This sample shall be obtained after the vehicle has been road tested.
11. Prepare new equipment for use prior to issue.
12. Load test equipment as specified in applicable technical publications.
13. Perform machining, welding, and fabricating, and body, frame, sheet metal, glass, upholstery, and fabric repair.

14. Perform cleaning and painting services.

15. Repair equipment on an emergency basis as the contracting officer directs.

### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work, Standards Applicable to All Work. The contractor shall also:

1. Complete maintenance and repair in the manner most economical to the Government and within maintenance expenditure limits as specified in equipment technical bulletins.

2. Complete maintenance, repair, and modifications to meet applicable equipment technical publications, modifications, work-order fielding plans, and letter of instruction standards and specifications.

3. Comply with AOAP requirements specified in TB 43-0210.<sup>41</sup>

4. Road test equipment as specified in TB 43-0142.<sup>42</sup>

5. Prepare new equipment for issue per manufacturers' recommendations and preparation instructions. Equipment shall be completely serviceable and ready to use before release to the customer.

### *Performance Periods*

The contractor shall complete items scheduled for work, and labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## **Ground Support Equipment Repair and Refrigeration**

### *Scope*

This section describes tasks and standards required to perform unit, IDS/IGS maintenance and repair on support equipment. This includes, but is not limited to, environmental control equipment such as skid- or truck-mounted mechanical refrigeration equipment, air conditioning units and general purpose forced air heaters, power-generating equipment such as electrical motors, auxiliary power units, pumps, and compressors. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule equipment and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production,

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<sup>41</sup> TB 43-0210, *Nonaeronautical Equipment Army Oil Analysis Program* (DA, 10 December 1984).

<sup>42</sup> TB 43-0142, *Safety Inspection and Testing of Lifting Devices* (DA, 14 June 1982).



Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

2. Disassemble and reassemble equipment.
3. Clean and adjust equipment and replace or repair defective or missing internal and external parts.
4. Make final test adjustments to obtain operating parameters called for in applicable technical manuals.
5. Repair and tune various standard military engine assemblies.
6. Troubleshoot and repair air conditioning, refrigeration, and forced-air heater systems of special purpose vans and trailers.
7. Process new equipment for issue as the contracting officer directs.
8. Troubleshoot and repair auxiliary power units and electrical systems of special repair, utility, and shop equipment trucks, vans, and trailers.
9. Repair equipment on an emergency basis as the contracting officer directs.

*Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work. The contractor shall also perform maintenance and repair in the manner most economical to the Government and consistent with the standards, specifications, economical repair limits, and expenditure limit criteria specified in applicable equipment technical publications.

*Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

**Chemical Equipment Repair**

*Scope*

This section describes tasks and standards required to perform unit, intermediate direct support, and intermediate general support maintenance and repair on support equipment. This equipment includes, but is not limited to, smoke generators, decontamination equipment, CO<sub>2</sub> fire extinguishers, dry chemical fire extinguishers, gas masks, flame throwers, various low and high pressure air compressors, and air purification systems on combat vehicles. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule equipment and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Disassemble and reassemble equipment.
3. Clean and adjust equipment, and repair or replace defective or missing internal or external parts.
4. Test and make final adjustments to obtain maximum operation.
5. Prepare new equipment for issue, and modify equipment as required by the Government.

### *Performance Standards*

The contractor's work shall meet the standards forth in the section on Description of Work. The contractor shall also perform maintenance and repair in the manner most economical to the Government and consistent with the standards, specifications, economical repair limits, and expenditure limit criteria specified in applicable equipment technical publications.

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## **Material Handling Equipment (MHE) Repair**

### *Scope*

This section describes tasks and standards required to perform unit maintenance, intermediate direct support, and intermediate general support maintenance and repair on gas, diesel, and electrically powered MHE such as commercial design and rough terrain forklifts, warehouse cranes and tractors, floor cranes, hoists, loading ramps, hand trucks, pallet jacks, scooters, and aircraft ground handling equipment. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule equipment and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

2. Troubleshoot, replace, repair, or modify major assemblies, subassemblies, and component items of MHE.

3. Remove, install, replace, modify, and repair major equipment assemblies and components such as engines, transmissions, differentials, and auxiliary power units.

4. Correct safety faults and other deficiencies that may endanger personnel or cause damage to equipment.

5. Remove, install, replace, and repair electrical, hydraulic, fuel, steering, air, cooling, hoisting, and brake systems.

6. Load-test and stencil MHE as required.

7. Support the MHE management and utilization program as specified in AR 310-34.

8. Initiate and maintain MHE maintenance and utilization records and reports on Government-provided equipment.

9. Forward to the AOAP Oil Laboratory an oil sample from all end items enrolled in the AOAP. The contractor shall review the results of the oil sample and correct any deficiencies of affected components and assemblies. The contractor shall also take and forward an additional oil sample, upon completion of work requested, for all items enrolled in the AOAP. This sample shall be obtained after the vehicle has been road tested.

10. Prepare new equipment for issue.

11. Perform machining, fabricating, and welding, and body, frame, sheet metal, upholstery, and fabric repair.

12. Perform cleaning and painting services.

13. Provide an MHE coordinator. (Applicable to GFP only.)

### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work. The contractor shall also:

1. Complete maintenance and repair in the manner most economical to the Government and within maintenance expenditure limits as specified in technical equipment bulletins.

2. Complete maintenance, repair, and modifications to meet applicable technical equipment publications, modification work-order fielding plan, or letter of instruction standards and specifications.

3. (Reserved)

4. Comply with AOAP requirements as specified in TB 43-0210.

5. Load-test equipment as specified in TB 43-0142.
6. Prepare new equipment for issue as specified in manufacturers' recommendations and preparation instructions.
7. Provide and update reports on GFP MHE utilization, and schedule maintenance services as specified by the 5th Infantry Division.

#### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

### **Lawn Mower, Weedeater, and Chain Saw Repair**

#### *Scope*

This section describes tasks and standards required to perform repair services on a variety of lawn mowers (push, self-propelled, and riding types), weed eaters, brush cutters, and chainsaws. Technical Exhibit \_\_\_ displays examples and frequency of work requirements.

#### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule equipment and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Disassemble and reassemble equipment.
3. Clean and adjust equipment and replace or repair defective or missing parts (internal and external).
4. Provide repair services, including electrical, hydraulic, and mechanical systems on gasoline and diesel type equipment.
5. Test and make final adjustments for optimum operation.
6. Overhaul and tune various commercial engine assemblies.
7. Prepare new equipment for issue.

### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work. The contractor shall also perform maintenance and repair in the manner most economical to the Government and consistent with the standards, specifications, economical repair limits, and expenditure limit criteria specified in applicable technical equipment publications.

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## **Shop Support Equipment and Tools Repair**

### *Scope*

This section describes tasks and standards required to perform unit and intermediate direct support maintenance and repair on shop support equipment and tools. These equipment and tools include, but are not limited to, battery chargers, lathes, grinders, sanders, saws, and drills; boring, honing, milling, and drilling equipment; tire repair equipment and lubrication equipment; fans and steam cleaners; buffers, polishers, vacuum cleaners, shampooers, and ice chests. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule equipment and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair, as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Disassemble and reassemble equipment.
3. Clean and adjust equipment, and replace or repair defective or missing parts (internal and exterior).
4. Perform final tests and adjustments for optimum operation.

### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work. The contractor shall also perform maintenance and repair in the manner most economical to the Government and consistent with standards, specifications, and economical repair limits and expenditure limit criteria specified in applicable technical equipment publications.

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

### **Combat Vehicles Repair**

#### *Scope*

This section describes tasks and standards required to perform unit, intermediate-direct support, and intermediate-general support maintenance and repair on combat vehicles. These vehicles include, but are not limited to, tanks, self-propelled howitzers, personnel carriers, combat engineer tanks, and recovery vehicles. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

#### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule equipment and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Troubleshoot, diagnose, and isolate equipment malfunctions, and determine the cause of malfunctions.
3. Remove, install, replace, modify, and repair major equipment assemblies and components such as engines, transmissions, final drives, transfers, and auxiliary power units.
4. Remove, install, replace, and repair electrical, hydraulic, fuel, steering, air, cooling, winching, and brake systems.
5. Remove, install, replace, and repair track, road wheel, and arm assemblies.
6. Remove, install, replace, modify, align, collimate, calibrate, and synchronize sighting and fire control instruments.
7. Borescope and gauge cannon tube assemblies.
8. Perform mechanical, hydraulic, and electrical repair and services on turrets and traversing mechanisms.
9. Test, troubleshoot, remove, install, and repair internally and externally mounted communication systems and components.
10. Correct safety faults and other deficiencies which may endanger personnel or cause damage to equipment.

11. Perform unit level maintenance, repair, and Preventive Maintenance Checks and Services (PMCS) for customers, organizations, and others who are authorized this level of support by the contracting officer.

12. Forward an oil sample from all end items enrolled in the AOAP within 1 day of receipt of the end item. The contractor shall review the results of the oil sample and correct any deficiencies in affected components and assemblies. The contractor shall take an additional oil sample upon completion of work requested for all items enrolled in the AOAP. This sample shall be obtained after the vehicle has been road tested.

13. Prepare new equipment for issue to customers as the contracting officer directs.

14. Load-test lifting equipment and other devices as the contracting officer directs.

15. Support the Combat Vehicle Evaluation Program in accordance with AR 750-1.

16. Perform machining, welding, and fabricating, and hull, glass, and fabric repair.

17. Perform woodworking, cleaning, and painting services and repair.

18. Fabricate and repair a wide variety of wiring harnesses.

19. Repair turret rings.

20. Secure combat vehicles during nonduty periods and when not undergoing repair.

21. (Reserved)

22. Assist in loading and unloading combat vehicles as workload allows and as management directs. This is not intended to interfere with priority maintenance, but rather to help customers whose staffing is insufficient to perform tasks related to loading or unloading combat vehicles.

23. Repair equipment on an emergency basis as the contracting officer directs.

24. (Reserved)

25. Perform maintenance on float candidates as the contracting officer directs.

### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work. The contractor shall also:

1. Complete maintenance and repair in the manner most economical to the Government and within the maintenance authority of the contractor as specified in applicable technical equipment publications.

2. Complete maintenance, repair, and modifications to meet applicable technical publications, modification work-order fielding plans, or letter of instruction standards and specifications.

3. Support the Combat Vehicle Evaluation Program as specified in memorandums of agreement (MOAs) and MOIs. Copies of past MOAs and MOIs are kept in the Technical Library.

4. (Reserved)

5. Comply with AOAP requirements as specified in TB 43-0210.

6. Load test equipment as specified in TB 43-0142.

7. Prepare new equipment for issue as specified in manufacturer's recommendations and preparation instructions.

#### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

#### **Automotive Repair**

##### *Scope*

This section describes tasks and standards required to perform unit, intermediate direct support, and intermediate general support maintenance and repair on tactical design and nontactical commercial vehicles. This includes, but is not limited to, utility, ambulance, cargo, dump, tractor, and wrecker trucks, rated from 1/4 ton through 25 tons and over. The contractor shall also perform maintenance and repair on tactical design trailers, semi-trailers, and dollies such as cargo, fuel, water, and shop repair vans and transporters. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

##### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule equipment and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

2. Perform the automotive repairs on parts including, but not limited to, engines, standard and automatic transmissions, transfers, differentials, axle assemblies, and associated hydraulic and electrical systems. The contractor shall align front ends, mount and balance tires and wheels, repair hydraulic and pneumatic brake systems, replace clutch systems, replace body and frame kits on vehicles, and replace frame assemblies and beds on commercial and tactical vehicles and trailers.

3. Remove, install, replace, modify, and repair major equipment assemblies and components such as engines, transmissions, transfers, axles, differentials, and auxiliary power units.



4. Perform diagnostic pretests to determine the malfunction, and the type and extent of work required. Perform these pretests with one or a combination of types of test equipment including but not limited to: compression gauges, exhaust analyzers, electrical test stands, electrical testers, special feeler gauges, and dial indicators.

5. Remove, install, replace, and repair electrical, hydraulic, fuel, cooling, steering, air, winching, and brake systems of equipment.

6. Correct safety faults and other deficiencies that may endanger personnel or cause damage to equipment.

7. Perform unit level repair and Preventive Maintenance Checks and Services (PMCS) for customers, units, and activities who are authorized this level of support by contracting officer.

8. Forward to the AOAP Oil Laboratory an oil sample of all end items enrolled in the AOAP within 1 day of the shop's receipt of the end item. The contractor shall also review the results of the oil sample and correct any deficiencies of affected components and assemblies. Replacement components and assemblies shall be obtained from Repairable Exchange Activity (RXA).

The contractor shall take and forward an additional oil sample upon completion of work requested for all items enrolled in the AOAP. This sample shall be obtained after the vehicle has been road tested.

9. Prepare new equipment for issue.

10. Load-test equipment.

11. Perform machining, welding, and fabricating, and body, frame, sheet metal, glass, upholstery, and fabric repair.

12. Perform woodworking, locksmithing, air conditioning, cleaning, painting, refrigeration, and heating services repair.

13. Repair equipment on an emergency basis as the contracting officer directs.

14. Perform maintenance (unit, IDS, and IGS) on float candidates as the contracting officer directs.

### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work, Standards Applicable to All Work. The contractor shall also:

1. Complete maintenance and repair in the manner most economical to the Government and within maintenance expenditure limits as specified in applicable technical equipment bulletins.

2. Complete maintenance and repair and modifications to meet applicable technical equipment publications, modification work-order fielding plans, or letter of instruction standards and specifications.

3. (Reserved)

4. Comply with AOAP requirements as specified in TB 43-0120.

5. Load-test equipment as specified in TB 43-0142.

6. Prepare new equipment for issue as specified in manufacturers' recommendations and preparation instructions, as the contracting officer directs.

#### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

### **Lead-Acid Battery Repair**

#### *Scope*

This section describes tasks and standards required to repair 6-, 12-, and 24-volt batteries including, but not limited to, nickel-alkali and lead-acid types. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

#### *Tasks*

The contractor is required to:

1. Charge batteries, build up posts, and repair small cracks in battery surfaces.
2. Fill or refill battery cells to the proper level with acid.
3. Retain a supply of battery acid.
4. Requisition replacement battery acid.
5. Palletize and turn in unserviceable batteries to RXA for disposition as the contracting officer directs.
6. (Reserved)
7. Neutralize and dispose of battery acid in accordance with appropriate Occupational Safety and Health Act (OSHA), federal, and/or other governing regulations regarding hazardous waste disposal.
8. The recharged batteries shall be tested using the hydrometer and low voltage circuit testers.

#### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work, Standards Applicable to All Work. Additionally, the appearance of rebuilt battery posts must equal that of new battery posts. All batteries shall pass voltage and current tests prior to reissue.

### *Performance Period*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

### **Component Repair**

#### *Scope*

This section describes tasks and standards required to repair components and subcomponents of end items. This includes a wide variety of equipment, including but not limited to: commercial automotive, tactical automotive, combat vehicles, engineer, construction, material handling, artillery, and ground power equipment. Additional components shall be from gas, multifuel, and diesel-burning equipment and trailers. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

Components shall include, but are not limited to, engines, transmissions, rear ends, transfers, cross-drive transmissions, final drives, differentials, and gear-reduction assemblies. Subcomponents shall include, but are not limited to, alternators, generators, voltage regulators, starters, turbochargers, fuel injectors, carburetors, hydro-vacs, master cylinders, wheel cylinders, distributors, vehicle personnel heaters, and hydraulic cylinders.

#### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule equipment and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

2. Disassemble, determine defective or worn parts, grind crank shafts, bore and/or hone cylinders, resurface heads, resleeve cylinders, grind or resurface valves, and reassemble and test components and subcomponents. All components and subcomponents shall be tested upon completion of the rebuilding process to ensure that they are free of leaks, calibrated, and adjusted to meet TM standards. Examples include, but are not limited to, transmissions, transfers, winches, steering gears, fans, fuel injection pumps, fuel injectors, voltage regulators, alternators, and generators.

3. Receive work items from installation RXA.

4. Receive work items that are non-RXA items from other customers.

5. Inspect all items to determine the completeness of the configuration as shipped from depot. The contractor shall also ensure that all paperwork has been completed. Examples are DA Form 2404, DA Form 2408-20, SF368<sup>43</sup> (Report of Item Discrepancy), and ECOD.

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<sup>43</sup> DA Form 2408-20, "Oil Analysis Log" (DA, May 1981); SF368, "Report of Item Discrepancy" (Army Materiel Command [AMC], May 1981).

6. Perform a pretest on engines to determine the malfunction, type, and extent of work required using one or a combination of the following types of test equipment: compression gauges, electrical testers, special feeler gauges, and engine dynamometers.

7. Perform a postdiagnostic test on engines using a dynamometer, and operate them for the prescribed periods of time to verify that the performance is within specified limits, including horsepower in relation to specific RPM, proper temperature, oil pressure, absence of abnormal noises, and AOAP.

8. Take an oil sample during each engine test unless an AOAP teardown is recommended. The contractor shall also prepare a DA Form 2408-20 and attach it to each component in the AOAP Program at the time of final test.

9. Prepare and attach repair tags to all items completed. The repair tag shall reflect the date, DOL, initials of repair person, and installation where work was performed.

10. Protect, package, preserve, and containerize components in accordance with applicable TMs for return to the customer or RXA.

11. Repair items based on an internal priority system that provides first priority for rebuilt components and end items that are deadlining either pacing, or intensively managed, items.

12. Paint items upon completion of repairs.

13. Grease and lube all items that require this service.

14. Steam-clean end items, components, and subcomponents during tear-down and prior to painting.

15. Provide data to the IMMO through the contracting officer on the cause of failure of major components of all engines and transmissions. The contractor shall follow the data format in Technical Exhibit \_\_\_\_.

16. Clean, paint, and stencil as necessary all storage and/or shipping containers used in transportation of components such as engines, transmissions, and drive assemblies.

17. Perform a postdiagnostic test on all cross-drive transmissions to ensure operability.

#### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work. Additionally, the final configuration and appearance of repaired items shall be the same as items received from the supply system; components shall be clean and dirt-free; areas not intended for painting shall be paint-free; containers and packaging methods shall protect items from damage in shipment and shall be weatherproof, when necessary.

The contractor shall perform service and run-in tests (dynamometer, load bank, bench, or test stand) as specified by the test schedule and instructions in applicable technical equipment publications. The contractor shall maintain files and records of the results of all tests.

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

### **Armament Repair**

#### *Scope*

This section describes tasks and standards required to repair, inspect, secure, and Parkerize weapons systems. This includes, but is not limited to, small arms and crew-served equipment, towed equipment, and self-propelled equipment. The equipment ranges in size and complexity from .22 caliber weapons to 155mm self-propelled howitzers. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

Armaments include, but are not limited to, missile launchers, towed and self-propelled artillery from 75mm through 155mm howitzers, mortars (60mm, 81mm, and 4.2 in.), including bipods, standards, and baseplates, 90mm recoilless rifles, cupolas on M-113 vehicle family, national match weapons from .22 caliber pistols to 7.62mm rifles, and museum pieces such as small arms items and salute cannons.

#### *Tasks*

Small Arms. The contractor is required to:

1. Store and secure weapons awaiting repair within the vault area.
2. Accept, reject, plan, control, and schedule items and associated maintenance on DA Form 2407, Maintenance Request, for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
3. Disassemble, clean, lubricate, replace, restore, adjust, and repair internal and external parts.
4. Gauge tubes and barrels.
5. Assist the Government in identifying weapons when requested to do so.
6. Perform maintenance (unit, intermediate direct support, and intermediate general support) on float candidates when the contracting officer so directs.
7. Conduct small arms inspections for turn-in or serviceability at shop or individual units upon request. At the completion of the inspection, the contractor shall give the unit commander copies of each DA Form 2404 resulting from the inspection.
8. Retain a copy of each DA Form 2404 for 1 year from the date of inspection.
9. Secure small arms and check the serial number on each weapon when received. The contractor shall not accept weapons whose serial numbers do not appear on the DA Form 2407. The contractor shall

also inventory weapons daily, monthly, and quarterly in accordance with AR 710-1<sup>44</sup> and AR 190-11 to ensure accountability. The contractor shall notify the contracting officer immediately if a weapon is unaccounted for or lost.

10. Shall *not* fabricate repair parts for small arms.

11. Parkerize small arms and *not* "blue" weapons as a substitute for Parkerization. The contractor shall also return "blued" commercial weapons to the depot when they require rebluing.

12. Identify and secure unserviceable, irreparable parts, which shall not be thrown away. The contractor shall also either demilitarize these parts or return them to the supply system, whichever task is required by current directives for the particular item.

13. Personnel must be certified by the contracting officer before repairing national match weapons.

14. The contractor's on-call representative shall arrive at the work site within 2 hours of being informed by the Military Police that the JSIIDs for the Arms storage facility has been set off. The contractor, together with the Military Police, shall conduct a physical inspection of the workplace to determine whether intrusion has occurred. If so, the contractor shall immediately notify the contracting officer and inventory all weapons. The contractor shall then report any losses to the Military Police. If no intrusion has occurred, the contractor shall enter the vault and reset the alarm. The contractor shall notify the contracting officer during the next duty day.

#### Artillery Repair.

The contractor is required to:

1. Repair crew-served, towed, and self-propelled artillery equipment.
2. Fabricate steel hydraulic lines.
3. Repair major and minor components and assemblies of artillery weapons systems.
4. Perform 12- and 18-month maintenance in accordance with technical manuals on weapons systems and associated equipment when the customer so requests.
5. Perform maintenance (unit, IDS/IGS) on float candidates when the contracting officer so directs.
6. Remove, repair, reinstall, or fabricate wiring harnesses for all types of weapons systems.
7. Load-test and inspect all lifting and holding devices.
8. Remove and reinstall tank turrets when required to replace or repair the turret race ring.
9. (Reserved)

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<sup>44</sup> AR 710-1, *Centralized Inventory Management of the Army Supply System* (DA, 1 February 1988).

10. Troubleshoot and repair hydraulic and electrical systems associated with each weapons system.

11. Provide one to three personnel to participate in two to three independent inventories per year. Each inventory shall last 3 to 5 hours.

### *Performance Standards*

Small Arms Repair. The contractor's work shall meet the standards set forth in the section on Description of Work, Standards Applicable to All Work. The contractor shall also ensure that:

1. Weapons shall fire freely and accurately without risk of harm to the user or the weapon.
2. Small Arms Maintenance: No unserviceable, irreparable controlled parts shall be disposed of, except in accordance with current directives.
3. Small Arms Inspections: weapons inspections shall be conducted within 1 workday of the time of receipt of the request. Inspection results shall accurately reflect serial numbers of all weapons.
4. Small Arms Security: The contractor shall store and secure weapons as specified in AR 710-2 and AR 190-11. The contractor shall not possess any weapon that cannot be identified, by serial number, on a current maintenance request.
5. Perform maintenance and repair in the manner most economical to the Government and consistent with the standards, specifications, economical repair limits, and expenditure limit criteria specified in applicable technical publications.
6. Small Arms Phosphate Finishing: Residue should not come off on the user's hands. Finish must not freeze moving parts. Metal surfaces should be evenly treated and free of bare spots. Weapons should be free of rust and treated with a coat of oil.
7. Small Arms JSIIDs: The contractor representative's response must be timely. All missing weapons are identified during the initial inventory immediately after an intrusion. The Military Police Office (MPO) and contracting officer shall be notified immediately if any intrusion has occurred.

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 24-7/2407-1 by more than 10 percent.

## **Office Machine and Miscellaneous Items Repair**

### *Scope*

This section describes tasks and standards required to receive, inspect, maintain, test, and repair office machine equipment. The equipment ranges in size and complexity from small simple calculators to complex modern IBM style typewriters and may include items such as table lamps, desk fans, and musical instruments. Technical Exhibits \_\_\_ display examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and materiel maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair, as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Repair office machines in accordance with specifications in commercial manuals, and ensure that the item performs all functions as described by the manufacturer.
3. Perform services required outside of normal duty hours, estimated to occur approximately three times in a 12-month period, as requested by the contracting officer.

The office equipment listed in Technical Exhibits \_\_\_\_ is used in a variety of environments. About 50 percent of the items are presently used by civilian clerical personnel in traditional office settings. The remaining items are presently used by soldiers in military units in environments which range from air-conditioned and heated indoor offices to outdoor, open-air settings in the field. The latter use may subject the equipment to rain, heat, cold, humidity, sand, dust, dirt, and transportation over unpaved roads or open terrain. These adverse conditions may affect the nature and extent of maintenance requirements.

### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work.

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## **Locksmith and Miscellaneous Items Repair**

### *Scope*

This section describes tasks and standards required to service, repair, and provide instruction on combination changes, padlocks, lockable containers, and safes. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and materiel maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning,



and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements:  
Part 11.

2. Make keys, open containers, and provide instruction in changing combinations to requesting units.

a. Making Keys: the contractor shall make primary and duplicate keys for different types of padlocks. These keys must meet the following standards: the key shall be easily inserted and removed from the lock; the key shall turn easily in the lock; and the key shall open the lock. If a key cannot be made for a particular lock, or if the cylinder of a lock is defective, the contractor shall replace the lock cylinder. New keys shall be issued to the customer at the time of the cylinder replacement. The contractor shall *not* make primary or duplicate keys for any high security padlock. If, because of lost or defective keys, a high security padlock cannot be opened, the contractor shall replace its cylinder. When a high security padlock is returned to the customer, *all* keys for that padlock must also be returned.

b. Opening Containers:

(1) Open locked containers including, but not limited to, safes, filing cabinets, and desks. The contractor shall use work methods that result in the least amount of damage necessary to open the container.

(2) When opening locked security containers, perform all drilling operations in the manner that preserves the container's security status and results in the least amount of damage necessary to open the container. If the locked container cannot be returned to its original secured status by repair or replacement of a drawer, door, or other component, the contractor shall repair the container to its maximum possible integrity. The contractor shall then stamp the following words into the metal front: "This container shall not be used for the storage of classified material." The stamped words shall remain visible if painted over.

(3) The contractor shall not store or open any security container until the customer has provided the following information in writing:

(a) A statement that the customer is not able to obtain the combination locally or from the next higher headquarters.

(b) The security classification of the container.

(c) A statement of the contents of the security container if known.

(d) A statement that the customer accepts responsibility for the material in the security container, and that the person who shall guard the container (the "custodian") has a security clearance sufficient to cover the contents of the container. The contractor shall verify that the custodian has the necessary security clearance by contacting the Directorate of Security before the container is opened.

When the security container is opened, the contractor and the custodian shall jointly inventory the material in the security container. The contractor shall not read any of the classified documents contained in the security container. Descriptions on the inventories shall be general. The contractor may count any money discovered in the security container. Once the inventory has been completed, the contractor and the custodian shall sign the inventory. The contractor shall give a copy to the custodian and shall retain

a copy for the contractor's records. The contractor shall turn over all contents of the safe to the custodian and shall retain the safe to work on it.

c. Instructions in Changing Combinations: the contractor shall instruct customers, in a clear, concise, and orderly manner, how to change lock combinations in one instructional class, at the site of the container. If the customer is unable to change the combination after instruction, the contractor shall inform the contracting officer. The contractor shall not change combinations.

The contractor shall also provide instructions and assistance in the proper use of combinations when the customer encounters problems in opening the safe. The contractor shall perform this service at the site of the safe.

3. Provide the services which this contract requires at the site of the work item when the contracting officer so requires. This work consists primarily of instruction in changing combinations, and work on items which cannot be physically delivered to the contractor. The contractor shall perform work at the work item site approximately 80 times per year. Usually, the customers shall bring work items, accompanied by DA Form 2407, to the contractor's work site.

4. Give the customer a DA Form 2407 at the time of the service call for completion. The contractor shall complete those items on the form for which he or she is responsible, including the assignment of a job order number.

5. As requested by the contracting officer, services may be required outside of normal duty hours approximately once every 12 months.

#### *Maintenance Expenditure Limits (MEL)*

The contractor shall not repair items which appear uneconomical to service without specific guidance from the Government.

#### *Performance Standards*

The contractor's work shall meet the standards set forth in the preceding paragraphs and in the section on Description of Work. The contractor shall comply with all security requirements.

#### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## Textile, Heavy Tentage, Canvas, and Webbing Repair

### *Scope*

This section describes tasks and standards required to repair, alter, and fabricate textile, heavy tentage, canvas, and webbing work items. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

Customers shall bring work items and corresponding DA Forms 2407 (Maintenance Requests) to the contractor's work site. The contractor shall maintain all of the work items described in the Common Table of Allowances (CTA) 50-900 (Sections I and II).<sup>45</sup> Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements by work item.

The contractor shall, upon the contracting officer's approval, fabricate the work items. If the Government does not provide the contractor with a pattern for the fabrication of the work item, the contractor shall design and make the pattern. All patterns fabricated by the contractor belong to the Government. The contractor shall file and store all patterns, whether furnished by the Government or made by the contractor, in a filing system from which they can be retrieved. When the contractor uses a pattern that he or she has designed and made, the Government must approve the first article fabricated before the contractor fabricates additional items.

### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work, and the following standards:

1. Thread shall be of equal quality to that already existing in the garment; thread shall be the same color as existing thread or the same color as the fabric. All stitches shall be equal in length and free of loops and knots; buttons shall be identical to originals in size, shape, and color, and shall be firmly fastened and aligned so that there is no bunching or stretching of the garment when buttoned; hem stitches shall be evenly spaced, and produce hems of equal length; hems shall have a smooth finish with minimum visibility of stitches on the exterior of the garment; seams shall be trimmed to within 1/2 in. of the seam stitching and shall be finished to prevent fraying or ravelling; finished garments shall be pressed and free of stains or dirt resulting from maintenance or operation.

Buttonholes shall be double sewn with no loose threads, and of the same size as the original so that existing buttons are easily accommodated; zippers shall equal the original zipper in length and material and shall be the same color as the fabric; zipper teeth shall be completely covered by fabric; zippers shall be smoothly finished so the fabric does not bunch or stretch; buckles, eyelets, snaps, and hooks and eyes shall be firmly attached to the fabric and positioned to close the garment without bunching or stretching; buckles, eyelets, snaps, and hooks and eyes shall be sized for the weight of the fabric to which they are applied; patches shall be the same color, weave, and fabric type as the fabric on which they are placed; patches shall be as small as possible without sacrificing strength; and the grain, weave, and pattern of patches shall run in the same direction as the material on which they are placed.

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<sup>45</sup> Common Table of Allowances (CTA) 50-900.

2. The contractor shall meet the following standards when fabricating work items:
  - a. The item shall conform to the pattern.
  - b. The material used shall be new and durable enough for the item to perform its intended purpose.
  - c. Methods of fabrication shall produce durable seams. For example, the method used shall provide adequate selrage and proper stitching tension.
  - d. Stitches shall be of uniform length.
  - e. Attachments such as grommets, cyclets, Velcro, and buckles shall be securely fastened to the material and evenly spaced.
  - f. Methods of fabrication shall minimize the frequency of repairs resulting from the same cause.
3. The contractor shall meet the following standards when designing and fabricating patterns:
  - a. The patterns shall produce fabricated items that perform the desired function.
  - b. Material from which a pattern is made should be durable enough to allow storage and reuse.

#### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

### **Upholstery and Game Table Repair**

#### *Scope*

This section describes tasks and standards required to upholster furniture and vehicle interiors, repair game tables, and fabricate miscellaneous work items. Technical Exhibit\_\_\_ displays examples and frequency of work requirements.

#### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and associated maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

2. Require that customers bring work items, except for billiard, pool, and foosball tables, and corresponding DA Forms 2407, to the contractor's work site.

Upholstering. This subsection describes required tasks which the contractor is required to perform. These tasks include, but are not limited to, respringing work items, restuffing work items, covering entire work items or components of them, resewing open seams, reattaching upholstery material to work item frames; sanding, staining, and finishing pieces of exposed wood such as frames, arm sections, and legs; painting work item frames, arms, and legs; cleaning, sanding, priming, and painting of frames, arms, and legs; and the furniture maintenance tasks described in the section on Furniture Maintenance, Design, and Fabrication.

Upholstery Standards. The contractor's work shall meet the standards set forth in the section on Description of Work, as well as the following standards:

1. Old covering material shall be completely stripped off the frame. The frame shall be cleaned and fumigated. The coil spring shall be retied or, if necessary, replaced with new spring.

2. Webbing shall be new and of textile-industry standard quality. Webbing shall be closely interlaced and secured with metal clips or good quality stitching twine. Springs shall be covered with burlap, and the burlap shall be secured to the spring with good quality twine using eight-way ties.

3. Nonreversible cushions shall have a 4-in. facing of material on all undersides with the remaining area covered in matching denim. All cushions, reversible and nonreversible, shall have two vents, brass or bronze on concealed sides. Two layers of cotton felt shall completely cover each side of the spring unit.

4. Upholstery material shall fit over the edge of the frame and stuffing smoothly, without bunching, overlapping, or looseness. It shall be attached securely so that normal use shall not cause the material to pull away from the frame.

5. Seams shall be durable and strong and shall not separate or loosen with normal use.

6. Upholstered surfaces shall be free of lumps, depressions, dirt, stains, and flaws in the material.

7. The original contours and details of the item shall be restored. For example, boxing dimensions and length and location of welds should remain the same as on the original.

8. Exposed wood and metal surfaces shall be refinished in accordance with the standards established in this PWS section (Furniture Maintenance, Design, and Fabrication).

9. Maintenance of frames shall be completed in accordance with the standards established in Section 30.

Vehicle Seat Covers, Door Panels, and Headliners. This subsection describes tasks which the contractor is required to perform. These tasks include, but are not limited to: covering all types of vehicle seats; respringing vehicle seats; restuffing vehicle seats; replacing vehicle door panels; recovering vehicle door panels; replacing vehicle headliners; resewing loose seams; and reattaching upholstery material that has come loose from roofs, door panels, seats, and other parts of a vehicle interior.

Standards for Vehicle Seat Covers, Door Panels, and Headliners. The contractor's work shall meet the standards set forth in Section 1 on Description of Work, as well as the following standards:

1. Vehicle seat cover upholstery shall meet the standards set forth in the above Upholstery Standards section.

2. Vehicle door panels: The cardboard panel shall be replaced to produce a smooth, firm edge for fabric application; the covered panel surface shall be smooth, free of lumps and depressions; the fabric shall fit over the edge of the panel smoothly, without bunching, overlapping, or looseness; and the covered panel shall fit securely and completely within the door frame.

3. Vehicle headliners: Worn or broken metal rods shall be replaced; seams shall be securely joined with adequate selvages to prevent pulling or bunching; stitches shall be neat, evenly spaced, and of equal tension; once installed, the headliner shall be free of wrinkles, bunching, overlapping, and looseness.

Billiard, Bumper Pool, and Foosball Tables. For purposes of this subsection, maintenance is defined to include, but not to be limited to, the following tasks: assembling billiard, bumper pool, and foosball tables; repairing and replacing corner, side, and end pockets; repairing and replacing table covers; repairing and replacing railings and the rubber on the railings; repairing and replacing bumper pool bumpers and foosball figures, rods, and grips; repairing cracks and chips in the slate or other table surfaces; repairing or replacing broken or cracked legs; sanding, staining, and finishing or touching up cigarette burns, scratches, and other damage to wood; and leveling tables. The Government shall not deliver these work items to the contractor; the contractor shall perform the work on site, or shall pick the items up and work on them in the shop. If working on the items in the shop, the contractor shall return them to their original location upon finishing the work. When calculating whether the contractor has performed in a timely manner, the contracting officer shall include pickup and delivery time.

Standards for Billiard, Bumper Pool, and Foosball Tables. The contractor's work shall meet the standards set forth in Section 1 (Description of Work), as well as the following standards:

1. Slate or other table surfaces: The table shall present a smooth surface, free of all dips and lumps, so that there is no interference with the path of the ball.

2. Felt: The felt shall completely cover the table surface and bumpers, and shall be securely attached to them. The felt shall present a smooth surface, free of all wrinkles, bubbles, seams, and worn or shiny areas.

3. Rubber bumpers: Rubber bumpers on billiard tables and bumper pool tables shall be properly attached and adjusted so that the play of the ball is accurate and predictable.

4. Foosball figures, rods, and grips: Figures shall be securely attached and properly spaced. Grips shall be securely attached to the rods and rods shall move freely and easily.

5. Leveling: Tables shall be leveled to the true horizon so that the play of the ball is accurate, predictable, and without drift.

6. Woodwork: Woodwork shall meet the standards established in the section on Furniture Maintenance, Design, and Fabrication.

**Fabrication Services.** The contractor shall fabricate repair part items when approved by the contracting officer. If the contracting officer does not provide the contractor with a pattern for the fabrication of the work item, the contractor shall design and make the pattern. All patterns fabricated by the contractor belong to the Government. The contractor shall file and store all patterns, whether furnished by the Government or made by the contractor, in a filing system from which they can be retrieved. When the contractor uses patterns that he or she has designed and made, the contracting officer must approve the first article fabricated before the contractor fabricates additional items.

**Fabrication Services Standards.** The contractor shall meet the following standards when fabricating work items:

1. The item shall conform to the pattern.
2. The item shall meet all standards listed in this section and the section on Furniture Maintenance, Design, and Fabrication.
3. Methods of fabrication shall minimize the frequency of repairs resulting from the same cause.
4. The contractor shall meet the standards set forth in the "Furniture Maintenance, Design, and Fabrication" section of this document when designing and fabricating patterns.
5. Material from which patterns are made shall be durable enough to allow storage and reuse.

#### ***Materials, Parts, and Supplies***

The contractor shall use materials, parts, and supplies of the same quality as those described in Technical Exhibit \_\_\_\_ or, if none are listed, those which are equal in quality to the materials, parts, or supplies being replaced. The contractor shall cover work items using the materials designated on DA Form 2407. If no material is designated on DA Form 2407 and if the work item does not require complete re-covering, the contractor shall use material of the same type, such as vinyl or fabric, which matches the remaining material in color, texture, and design. If the work item requires complete recovering and DA Form 2407 does not indicate which material the contractor should use, the contractor shall replace the existing material with material of equal quality, which matches the replaced material in color, texture, and design.

#### ***Performance Periods***

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

### **Furniture Maintenance, Design, and Fabrication**

#### ***Scope***

This section describes tasks and standards required to repair, design, and fabricate furniture. Customers shall bring work items and corresponding DA Forms 2407 to the contractor's work site. When the contracting officer requires, the contractor shall also provide, at the site of the work item, the services

that this contract requires. The furniture work items listed on Technical Exhibit \_\_\_\_ are typically constructed of metal, wood, pressed wood, plywood, Formica, plastic, Plexiglass, glass, cane, and combinations of these materials. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Furniture Maintenance Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and material maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the section on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

2. For purposes of this subsection, maintenance is defined to include, but not to be limited to, the following tasks, which the contractor shall perform: replacing component parts, such as arms and legs, casters, tops, glass, and other hardware; reattaching or reassembling component parts that have become loose or unattached; finishing small pieces of exposed wood, such as arm sections and legs; finishing complete work items; painting work item frames; and fabricating furniture components and hardware, such as drawer runners, drawers, handles, knobs, panels, and doors. These tasks are representative of the types of tasks connected with furniture repair. The contractor shall also perform similar tasks not specifically listed above.

### *Finishing*

For purposes of this subsection, finishing is defined to include the following tasks, which the contractor shall perform. cleaning work items to remove surface dirt and other foreign materials; removing pre-existing coats of paint, finish, and stain; filling holes and other flaws; sanding; sealing; staining or priming; and painting or applying some other waterproof coating such as varnish. The contractor shall finish previously unfinished surfaces. In addition, the contractor shall take wood from paint to a natural finish, from a natural to a painted finish, and rehabilitate the natural finish. The contractor shall take metal from the original finish to a painted finish, from paint to another painted finish, from paint to the original finish, and rehabilitate the original finish. These finishing tasks are representative of the types of tasks connected with furniture finishing. The contractor shall also perform similar finishing tasks not specifically listed above.

Metal Standards. The contractor's maintenance of metal and metal components of work items shall meet the following standards:

1. All work items shall be restored to a like-new condition.
2. Aluminum work items shall be cleaned with a lacquer wash thinner, sanded smooth, and shall receive at least two coats of clear acrylic.
3. All old finishes shall be removed from ferrous metal work items. Cleaning methods and pre treatments of ferrous surfaces for organic coating shall be made in accordance with Federal Specification



TT-C-490b.<sup>46</sup> Rust and stains on the interior and exterior surfaces shall have been completely removed before coating.

4. All surfaces, including undersides, shall have received two coats of primer. The prime coats shall have been allowed to dry thoroughly before sanding. Sanding shall produce a smooth surface. Repair patches and filled holes shall have been spot primed and sanded before receiving final coats of metal primer to prevent blemishes and burn-through. All surfaces, including undersides, shall have received at least two coats of semigloss lacquer or enamel. The color of the lacquer or enamel complies with Federal Standard 595A.<sup>47</sup> The work item shall be in a fully serviceable condition. All operating or moving parts shall be properly fitted, adjusted, and lubricated to ensure free movement and ease of operation.

5. Lacquer or synthetic putty shall be used to fill marks in thicknesses not to exceed 1/64 in. Body lead shall consist of not less than 20 percent tin and shall be neutralized before painting.

6. Marks, dents, scratches, holes, and other defects in metal surfaces shall be filled and smoothed. Tears and ruptures shall have been welded and filled to present a smooth surface.

7. Metal beading shall be new and shall meet Federal Specification AA-D-00191e.<sup>48</sup> Edges shall not protrude above the surface of the plastic sheeting. There shall be no more than a 1/16-in. gap between the ends of the beading, and there shall be no sharp edges.

Wood Standards. The contractor's maintenance of wood and wood product work items and components of work items constructed of these materials shall meet the following standards:

1. All old finishes shall have been removed. The contractor shall disassemble and remove component parts when necessary to accomplish the complete removal of old finish. For example, the contractor shall remove drawer pulls, door hinges, glass panels, and other metal hardware.

2. Exposed surfaces shall have been thoroughly washed and cleaned with neutralizing agents and allowed to dry. The contractor shall not use dip-type removal processes.

3. Cleaned surfaces shall have been sanded smooth and show no evidence of cross-grain sanding. Sanded surfaces shall be filled and stained, and shall have received a medium coat of sealer. No more than two coats of sealer shall be applied.

4. A sufficient number of coats of finish shall be applied to the surface to protect the wood and to provide durability and longevity.

5. The finished surface shall be free of unevenness, such as depressions and bumps, perceptible to sight or touch. Stain shall not obscure the grain of the wood. Stain shall be evenly applied so that it is not darker in one place than another. Finished coats shall not be allowed to pool in decorative carvings, seams, or joints. Finished coats shall be applied evenly and exhibit no drips or runs.

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<sup>46</sup> Federal Specification TT-C-490b, *Cleaning Methods for Ferrous Surfaces and Pretreatments for Organic Coatings* (DOD, 15 December 1989).

<sup>47</sup> Federal Standard 595A, *Colors Used in Government Procurement* (DOD, 2 January 1968).

<sup>48</sup> Federal Specification AA-D-001910, *Desks, Steel, General Office* (DOD, 10 July 1970).

6. Component parts shall be reassembled to return the item to a serviceable condition. All operating or moving parts shall be properly fitted, adjusted, and lubricated to ensure free movement and ease of operation.

7. Base sections shall be given a finished coat which gives a full-rubbed effect.

8. Interior surfaces shall be cleaned and given one coat of finish.

9. All metal hardware shall be cleaned, buffed, and polished prior to reassembly.

10. All attachments, such as metal hardware, shall be securely fastened to the work item in their proper locations.

11. Loose joints shall be glued only after the removal of old glue. Shrinkage cracks shall not be glued and forced together, but shall be evenly cut and a matching insert glued into place. No contact cement shall be used in constructing joints. Joined surfaces shall be planed so that there are no gaps; that is, so that all points on one surface touch points on the adjoining surface.

Formica, Plastic, and Plexiglass Standards. The contractor's maintenance of Formica, plastic, and Plexiglass work items and components of work items constructed of these materials shall meet the following standards:

1. Material shall be cut to proper dimensions and shall fit properly.

2. No raw or jagged edges shall be visible.

3. No edges shall protrude.

4. There shall be no gaps where material is joined together.

5. All edges shall be routed or sanded and present a smooth, finished appearance.

6. Contact glue shall be applied evenly and shall produce a good bond between the work item and the material.

7. There shall be no bubbles or bubble-like surfaces or loose edges.

8. Trim shall be cut and applied to match adjoining pieces of material.

Glass Standards. The contractor's maintenance of glassware work items and glass components of work items shall meet the following standards:

1. Glass shall be cut to fit properly.

2. Edges shall be sanded to a smooth finish.

3. Completed glassware shall not contain chips or cracks.

4. When installed in bookcases or like items, glass shall fit snugly into the opening and shall not vibrate or rattle when the work item is moved.

Cane Standards. The contractor's maintenance of canework items and cane components of work items shall meet the following standards:

1. Cane shall be woven to produce the same appearance of the cane work on the remaining part of the furniture.

2. There shall be no protruding edges or loose ends.

3. There shall be no loosely woven strips.

4. Cane shall be stained and finished to match existing cane.

#### *Furniture Fabrication Tasks*

The contractor shall fabricate work items when the contracting officer so requests. If the contracting officer does not provide the contractor with a pattern for the fabrication of the work item, the contractor shall design and make the pattern. All patterns fabricated by the contractor belong to the Government. The contractor shall file and store all patterns, whether furnished by the Government or made by the contractor, in a filing system from which they can be easily retrieved. When more than one work item is to be fabricated from the same pattern and when the contractor is responsible for designing the pattern, the contractor shall fabricate a first article. The contractor shall submit the first article, along with the method of installation or assembly, to the contracting officer for approval. The contractor shall not fabricate additional work items until the contracting officer so authorizes.

The contractor shall review the design provided on the DA Form 2407 before fabrication. If the design is defective or impractical, the contractor shall contact the customer. The contractor shall work with the customer to correct the defects in design.

#### *Furniture Fabrication Standards*

The contractor shall fabricate items to meet the standards set forth in the section on Description of Work, Standards Applicable to All Work, and the following standards:

1. The fabricated item shall conform to the pattern.

2. The fabricated item shall meet the standards set forth in this section for maintained work items and in other applicable sections such as Upholstery. For example, finished work items shall meet the standards prescribed in the section on Furniture Maintenance, Finishing Tasks and Metal Standards. (p. 63)

#### *Design Task*

The contractor's design improvements shall render the item functional and enable it to perform its intended purpose.

Materials. The contractor shall maintain work items using the materials designated on DA Form 2407. If no material is designated there, the contractor shall use material which is of the same type, such

as plywood or plastic, oak or pine, and which matches the remaining material in color, texture, and design. The contractor shall use only material that meets the standards described in this section and in Technical Exhibit \_\_\_\_\_. In addition, the contractor shall meet the following standards for laminated plastic and overlay tops:

1. Laminated plastic specifications: Sheeting shall conform to the requirements of Federal Specification L-P-508H, dated 19 April 1977, Style D, Type I, Grade HP, Class 1, Finish A, B, or D (as selected by the Government).<sup>49</sup> The sheeting shall be 0.050-in. thick with a tolerance of 0.005-in. The plastic sheeting for both inlay and overlay tops shall be in patterns of furniture finish, such as walnut, leather green, leather white, teak, rosewood, and other patterns as required.

2. Overlay top (cap top): Cap top shall be placed over the existing desk top. The top shall not be more than 2-1/4-in. high overall, with a durable, nonwarping surface. The exposed surfaces of the top and sides shall have self-edged laminated plastic, firmly and permanently bonded. (Decorative plastic laminate shall meet Federal Specification L-P-508H, dated 19 April 1977, Style D, Type I, Class 1, with a thickness of 0.050 in.,  $\pm$  0.005 in.). The core material for the tops shall be particle board with a minimum thickness of 3/8 in. and maximum thickness of 5/8 in. Particle board used in tops shall be in accordance with any of the following types, grades, and classes of Commercial Standard CS-236: (1) Type I, Grade A (High Density), Class 1; (2) Type I, Grade B (Medium Density), Class 2, except that panels less than 1-in. thick shall have a minimum average screw holding capacity of 235 lb on the edges and 285 lb on the faces; and (3) Type II, Grade A (High Density), Class 2. The moisture content of the particle board shall not exceed 9 percent at the time of plastic laminate assembly.

Tops shall have nondecorative laminated plastic backing sheets conforming to Style ND, Type IV of Federal Specification L-P-508G, with a thickness of not less than 0.030 in. The sides shall be of material 3/4-in. thick and deep enough to conceal from view the edge of the existing top without interfering with drawer or slide operation. The sides shall be glued and nailed, or screwed flush to the edges and on the underside of the top particle board. The simulated grain in the decorative laminated sheeting on the top surface, and the front and rear edges of the top shall extend from side to side (as viewed from the front of the item). The simulated grain on the side edges (right and left sides) shall run vertically. The laminate applied to each surface shall be in one continuous piece and the top shall overlap the side pieces. After having been applied to the tops, the edges of the laminated plastic shall be slightly beveled, and shall be smooth and free of chips and splits. Regardless of the top core used, a secure bond between the laminated plastic and the horizontal and vertical edges of the top shall be accomplished by completely supporting the laminated plastic with core material.

#### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

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<sup>49</sup> Federal Specification L-P-508G, *Plastic Sheet, Laminated, Decorative, and Nondecorative* (DOD, rev. 19 April 1977).

## **Body Repair**

### *Scope*

This section describes tasks and standards required to provide body repair services on combat vehicles, tactical vehicles, special purpose equipment, and nonvehicular items such as radio cases, vans, trailers, and a wide variety of metal containers. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and materiel maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Return metal to its original shape and configuration by contouring, bonding, aligning, filling, sanding, priming, or replacing components. The contractor shall design and fabricate replacement components when necessary. The contractor shall also fabricate items using samples, crude drawings, verbal instructions, and detailed drawings, including blueprints. Work items are subject to rain, heat, cold, humidity, sand, dust, dirt, and transportation over unpaved roads or no roads. These conditions may affect the nature and extent of maintenance requirements.
3. Replace broken and missing glass, clear plastic, and mirrored components of work items.
4. Repair items based upon an internal priority system that provides first priority for pacing items and intensively managed items.

### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work, and the following standards. The contractor shall return work items to their original shape and configuration. The surface shall be smooth, free of bumps, depressions, cracks, and other surface defects. The contractor shall repair areas to match and blend with surrounding areas. Glass, mirrors, and clear plastic shall be free of scratches, cracks, and other surface defects, and shall be placed securely within their frames, weatherproofed as necessary, and free of waving, distortion, and rattling.

### *Performance Periods*

The contractor shall complete items scheduled, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## **Machine Operations**

### *Scope*

This section describes tasks and standards to design and fabricate parts and complete items from raw stocks of assorted metals, metal alloy, and other materials. These work items range in size and complexity from small machined bolts, screws, cotter pins, and keys, to components of large tactical vehicles. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and materiel maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

2. Perform the following tasks: lapping, honing, grinding (outside and inside dimensions), facing, counterboring, milling, shaping, turning, tapping, all types of threading, thread-grinding, reaming, sawing, boring, drilling, broaching, filing, polishing, countersinking, sanding, buffing, stoning, pressing, heat treating, and annealing; and removing broken bolts, stud extractors, drill bits, and taps.

3. Fabricate items using samples, crude drawings, verbal instructions, and detailed drawings, including blueprints.

### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work, and the following standards:

### *Design and Fabrication*

The contractor shall meet the following standards when fabricating Government-approved work items: the work item shall conform to the design; methods of fabrication shall minimize the frequency of maintenance requirements resulting from the same cause; and the specific characteristics of the metal shall be identical to those of the metal used by the original manufacturer of the item, or shall meet the standards established by the design.

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## Painting

### Scope

This section describes tasks and standards required to provide painting and refinishing services to maintain existing and fabricated work items. The work items to be painted include, but are not limited to: tactical vehicles, commercial vehicles, forklifts, tractors, engineer equipment, smaller types of equipment such as rifle racks, generators, air compressors, helmet liners, and all types of wood and metal furniture such as organs, pianos, television sets, cabinets, and desks. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### Tasks

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and material maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

2. Determine methods, devices, and materials best suited for the type of finish required. The contractor shall treat surfaces with sealers, metal primers, and other substances as required. The contractor shall also sand, shape, fill, and level for shape retention and for a smooth-textured, decorative appearance of the finished product. The contractor shall apply primers, and intermediate and finished coats of premixed paint and/or mixed paint to achieve proper color. The contractor shall be required to apply nongloss, semigloss, and high-gloss paints, special paints, varnishes, enamels, stains, lacquers, shellacs, epoxy-type paints, and chemical agent-resistant coating (CARC) paints in a wide variety of colors. The contractor shall also observe additional OSHA safety requirements when applying CARC paints, and shall paint camouflage patterns on tactical vehicles according to specifications outlined in applicable TMs. The contractor shall paint lettering, such as bumper markings, on vehicles.

### Performance Standards

The contractor's work shall meet the standards set forth in the section on Description of Work, and the following standards. All areas identified for painting shall be completely and evenly covered with paint; the item shall be free of drips, runs, and overspray; colors produced shall be pure and uncontaminated by other colors; items which require camouflage shall contain the specified percentage of each color (10 percent variation allowed); lettering on vehicles shall be neat and legible; areas not intended for painting, such as windshields, tail lights, and backup lights, shall be paint-free; and work methods and procedures shall maximize the useful life of the paint job. The contractor shall comply with TB 43-0147, TB 43-0209, TM 5-618, and TM 43-0139.<sup>50</sup>

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<sup>50</sup> TB 43-0147, *Instructions for Safe Handling, Maintenance, Storage, and Disposal of Radioactive Items Managed by the U.S. Army Armament Material Readiness Command* (DA, 18 March 1982); TB 43-0209, *Color, Marking, and Camouflage Painting of Military Vehicles, Construction Equipment, and Materials Handling Equipment* (DA, 29 October 1976); TM 5-618, *Paints and Protective Coatings* (DA, 15 June 1981); TM 43-0139, *Painting Instructions for Army Materiel* (DA, 27 July 1988).

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## **Radiator Repair**

### *Scope*

This section describes tasks and standards required to repair radiators, oil coolers, and fuel tanks for automotive and combat vehicles and miscellaneous metal items such as furniture and hot and cold food containers. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and material maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Clean and test radiators, oil coolers, and fuel tanks to determine whether they are economical to repair.
3. Requisition alkali solutions.
4. Weld, braze, or solder the work items using acetylene torch or natural gas processes.
5. Pressure-test items during repair and upon completion of work.
6. Perform less complex jobs using electrical and/or acetylene welding processes.
7. Use various work processes including, but not limited to, preheating, brazing, head welding, tack welding, flame cutting, and heat treating.
8. Disassemble, clean, repair, rod, boil, reassemble, test, and paint radiators and oil coolers.

### *Performance Standards*

The contractor's work shall meet the standards set forth in Section 1 (Description of Work).

### *Performance Periods*

The contractor shall complete items scheduled for work, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.



## **Welding**

### *Scope*

This section describes tasks and standards required to provide oxygen-acetylene, electric-arc, inert-gas (magnesium inert gas [MIG] and tungsten inert gas [TIG]), stick-rod, and spot-welding services to repair all types of items supported by this contract. Work items range in size and complexity from small electric generator frames to M-1 tanks and 100 ton trailers. Work items are composed of a wide variety of metals. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and material maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

2. Design and fabricate work items, using samples, crude drawings, verbal instructions, and detailed drawings, including blueprints. The contractor shall analyze and solve design, fabrication, and maintenance problems which work requirements present. Items fabricated are of a wide variety, and include the construction of monorails, the vent hood and ventilating system for the engine run-in shop, engine stands, transmission stands, and vehicle parts.

3. Heat-treat work items when the contractor so requires.

### *Working Conditions*

Work shall be performed in the shop, adjacent to the shop, or onsite, whichever the contractor requires.

### *Performance Standards*

The contractor's work shall meet the standards set forth in the section on Description of Work; in TM 9-237,<sup>51</sup> TACOM M-1 Security Classification Guide and Welding Theory; in Application, as established by the American Welding Society; and the following standards.

Design and Fabrication Standards. The contractor shall meet the following standards when fabricating Government-approved work items: (1) the work item shall conform to the design; (2) the work item shall accomplish its intended purpose; (3) methods of fabrication shall minimize the frequency of maintenance requirements resulting from the same cause and shall maximize the useful life of the item; and (4) the specific characteristics of the metals shall be identical to or exceed those of the metals used by the original manufacturer of the item, or shall meet or exceed the standards established by the design.

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<sup>51</sup> TM 9-237, *Operator's Manual for Welding Theory and Application* (DA, 29 October 1976).

### *Performance Periods*

The contractor shall complete items scheduled, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

### **Emergency Maintenance Service**

#### *Scope*

This section describes tasks and standards required to provide materiel maintenance repair support during off-duty hours to customers 7 days per week, 24 hours per day, including legal public holidays.

#### *Tasks*

The contractor is required to:

1. Respond to emergency requests on all equipment supported by this contract only upon notification by the contracting officer. Emergency repair requirements are estimated to occur 150 times per year. Workload is included in Technical Exhibit \_\_\_\_, but is not identifiable as emergency maintenance service.
2. Notify the contracting officer upon resolving emergency situations or actions being taken to resolve the problems.
3. Record work completed on DA Form 2407 (Maintenance Request) in accordance with the procedures specified in the MIMS Manual.

#### *Performance Standards*

The contractor shall:

1. Have personnel dispatched to the work site within 4 hours after notification by the contracting officer.
2. Notify the contracting officer within 30 min after resolving the emergency situation.
3. Process and complete DA Form 2407 as specified by DA Form 738-750<sup>52</sup> and TRADOC MIMS Manual 18-1-1-TSG.

#### *Performance Periods*

The contractor shall complete items scheduled, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

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<sup>52</sup> TB 750-651, *Use of Antifreeze Solutions, Antifreeze Extender, Cleaning Compound and Test Kit in Engine Cooling Systems* (DA, 12 February 1989).

## Modification of Materiel

### *Scope*

This section describes tasks and standards required to apply mandatory, special mission, and special purpose modifications, conversions, and minor alterations to equipment and items as specified in DA or MACOM Modification Work Order Field Plans (MWOFPs), Memorandums of Agreement (MOAs), applicable technical publications, or locally-developed plans. Workload is included in Technical Exhibit \_\_\_\_, but is not separately identifiable as MWO work. Approximately eight MWOs shall be applied per year.

### *Tasks*

The contractor is required to:

1. Attend meetings and provide reports prior to, during, and after the application of MWOs, as the contracting officer directs.
2. Review plans, schematics, diagrams, blueprints, samples, and drawings to determine labor hour and material requirements.
3. Plan and lay out work to determine methods, procedures, special tools, equipment, material, and additional resources required for applying MWOs, conversions, or alterations.
4. Prepare cost estimates for applying modifications, conversions, or alterations. The contractor shall, if instructed by the contracting officer, set up separate APCs and account for any costs incurred. This information shall be furnished to the contracting officer as requested.
5. Initiate, complete, and forward modification work orders (DA Form 2407) to the contracting officer, and as the MWOFP specifies.
6. Plan, control, and schedule equipment for modification, alteration, or conversion.
7. Accept and store equipment and associated modification kits, if applicable, at the work site designated by the contracting officer.
8. Apply modifications, conversions, or alterations upon the contracting officer's approval.
9. Support other Government modification teams by providing services and supplies such as sufficient shop space equipped with adequate heating, lighting, electricity, air, exhaust, and lifting capabilities; required tools and equipment such as fork lifts, tow tractors, lifting slings, special hand and power tools, welding and cutting equipment, and common hardware; bench stock items such as nuts, bolts, screws, washers, rags, welding supplies, fabrics, lumber, cleaning solvents, petroleum, oils, and lubricants; services such as cleaning and moving equipment, fabrication, repair, and modification of parts and components; and storage, handling, and disposal of refuse generated by the application of the modification.

### *Performance Standards*

The contractor shall:

1. Obtain written approval from the contracting officer before accepting requests for or applying any modification, conversion, or alteration.
2. Comply with the reporting requirements, specifications, and standards as specified in MWOFPs, locally-developed plans, and technical publications.
3. Plan, control, and schedule work as specified in TRADOC MIMS Manual 18-1-1-TSG.

### *Performance Periods*

The contractor shall complete items scheduled, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

### **Investigation Support**

#### *Scope*

The contractor shall assist the Government in investigating accidents, incidents, and mishaps involving Government equipment by providing ECOD information on DA Form 2407 as requested. Workload is included in Technical Exhibit \_\_\_\_, but is not separately identifiable as investigative support work.

#### *Tasks*

The contractor is required to:

1. Respond to accident investigation support requests on a 24-hours-per-day, 7-days-per-week basis, upon the oral or written request of the contracting officer.
2. Support investigations and assist in extensive research as required.
3. Provide input for reports to include recommended corrective action.
4. Provide shop space and security for equipment requiring further investigations as the contracting officer requests.
5. Record labor hours expended for investigations on DA Form 2407 (Maintenance Request).
6. Provide personnel three to seven times annually to assist in investigations requiring 1 to 3 working days each.

### *Performance Standards*

The contractor shall provide thorough and comprehensive support for investigations, and shall provide required supporting documentation.

### *Performance Periods*

The contractor shall complete items scheduled, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## **Hoses, Fluid Lines, and Cable Repair**

### *Scope*

This section describes tasks and standards required to fabricate and repair miscellaneous hoses, fluid lines, and cables, such as fuel, air, hydraulic, and liquid system hoses, lines, tubes, and fittings; and electrical system items such as harnesses, power leads, and cables. Technical Exhibit \_\_\_\_ displays examples and frequency of work requirements.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and materiel maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Plan, control, and schedule items for repair or fabrication.
3. Fabricate or repair items such as steel, copper, rubber, or braided tubes, lines, and hoses which involve flaring ends, shaping and bending metals, installing fittings, and repairing holes and cracks.
4. Fabricate or repair electrical items such as single- and multiple-strand wiring harnesses, cables, and leads which involve isolating malfunctions, replacing unserviceable multiple-gauge wires, and replacing or restoring end connectors, fittings, or grommets.

### *Performance Standards*

The contractor shall fabricate or repair items as specified in applicable equipment technical publication specifications and standards.

### *Performance Periods*

The contractor shall complete items scheduled, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## Operational Readiness Float (ORF) Maintenance and Issuance

### *Scope*

This section describes tasks and standards required to perform technical inspections and preventive maintenance checks and services. The contractor shall also perform unit, intermediate direct support, and intermediate general support maintenance and repair on equipment and items assigned to the ORF activity which the Government manages and operates. A current listing of authorized ORF assets appears in Technical Exhibit \_\_\_\_\_. The Government reserves the right to increase or decrease the ORF as required. Workload is included in Technical Exhibit \_\_\_\_\_, but is not separately identifiable as ORF.

### *Tasks*

The contractor is required to:

1. Perform technical inspections on unserviceable equipment being considered as an exchange for ORF equipment upon request from the contractor and receipt of DA Form 2407 (Maintenance Request) from the owning unit.
2. Prepare and record the results of technical inspections on DA Form 2404. This form shall be attached to the DA Form 2407 as part of the historical documentation for the end item being repaired.
3. Repair and return equipment to the customer upon notification by the contracting officer that an exchange shall not take place.
4. Change blocks (1a) and (1c) of the maintenance request, and provide input to MIMS to identify the equipment as an ORF asset upon notification by the contracting officer that an exchange shall take place.
5. Coordinate the issue of ORF assets with the contracting officer and the receiving customer to include property book transactions.
6. Plan, control, and schedule ORF equipment for repair.
7. Repair ORF equipment to applicable standards.
8. Store ORF equipment within the confines of its facility boundaries.
9. Perform scheduled and unscheduled repair, operational tests, oil samples, and preventive maintenance checks and services on serviceable ORF assets upon receipt of DA Form 2407 (Maintenance Request) from the contracting officer.
10. Accept, reject, plan, control, and schedule items and materiel maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

### *Performance Standards*

The contractor shall:

1. Perform and record technical inspections as specified in DA PAM 738-750.
2. Coordinate ORF exchanges with the contracting officer.
3. Repair and maintain ORF assets as specified in applicable equipment technical publications standards and specifications.
4. Store unserviceable ORF assets separately from other equipment awaiting repair or pickup.
5. Issue float assets only upon the contracting officer's written approval.
6. Not loan, divert the use of, or cannibalize ORF equipment, nor any assembly, component, or part thereof, to fulfill the terms of this contract. A serviceable part may be control-substituted to return a unit asset to mission-capable condition only when approved by the IMMO through the contracting officer.

### *Performance Periods*

The contractor shall:

1. Complete items scheduled, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.
2. Issue floats within 1 workday of the contracting officer's approval.

### **Requests for On-Site Support**

#### *Scope*

This section describes tasks and standards required to perform on-site unit, IDS, IGS, and technical inspections for authorized customers and as the contracting officer directs. Workload is included in Technical Exhibit \_\_\_\_, but is not separately identifiable as on-site support.

#### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and materiel maintenance on DA Form 2407, (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

2. Provide on- or off-site support to a Government installation. Off-installation support may be required anywhere in the geographic area of responsibility stated in AR 5-9.<sup>53</sup> The contractor shall coordinate with and obtain written approval from the contracting officer prior to accepting on-site requests.

3. Coordinate with customers' repair and evacuation schedules when necessary.

4. Evacuate equipment or any component or part thereof to the contractor's maintenance facility, if it is determined that the repair cannot be performed on site and evacuation is not within the capability of the customer.

5. Disassemble and reassemble equipment on site to accommodate repair or evacuation actions.

6. Perform operational checks and services upon completion of repair.

#### *Performance Standards*

The contractor shall:

1. Record maintenance and repair actions performed on site on DA Form 2407 and as specified by DA PAM 738-750.

2. Complete maintenance and repair in a manner consistent with the standards, specifications, and economical repair limits and expenditure limit criteria specified by applicable technical publications.

#### *Performance Periods*

The contractor shall:

1. Proceed to the site upon receipt of approved request for on-site work within 2 hours of notification by the contracting officer.

2. Complete items scheduled, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

### **Winterization of Equipment**

#### *Scope*

This section describes tasks and standards required to inspect and verify that equipment that is on maintenance request or awaiting issue, and subject to cold weather temperature damage, is properly protected. Workload is included in Technical Exhibit \_\_\_\_, but is not separately identifiable as equipment winterization.

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<sup>53</sup> AR 5-9, *Inter Services Support Installation Area Coordination* (DA, 1 March 1984).



### *Tasks*

The contractor is required to:

1. After sampling, protect liquid systems subject to freezing, as necessary.
2. Protect batteries installed in equipment and batteries awaiting repair or issue.
3. Initiate, prepare, process, and record on DA Form 2407 (Maintenance Request) actions taken to winterize equipment.

### *Performance Standards*

The contractor shall:

1. Comply with engine cooling system maintenance procedures specified in TB 750-651 and applicable equipment technical publication recommendations.
2. Initiate, prepare, and record DA Form 2407 (Maintenance Request) as specified in DA PAM 738-750.

### *Performance Periods*

The contractor shall complete items scheduled, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

## **Equipment Repair for Transfer or Upgrading**

### *Scope*

This section describes tasks and standards required to perform unit, intermediate direct support, and intermediate general support maintenance and repair on equipment displaced by the fielding of new or product-improved systems, or equipment that is excess and scheduled for shipment or transfer. Workload is included in Technical Exhibit \_\_\_, but is not separately identifiable as transfer or upgrading of equipment.

### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and materiel maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Perform technical inspections to determine repair eligibility, labor hours, maintenance, and parts, as the contracting officer requires, for work performance under this subsection.

3. Compute, prepare, and forward to the contracting officer, equipment classification documents when estimated repair requirements exceed maintenance authorization or expenditure limits, and before work on the end item actually begins.

4. Initiate, process, and complete DA Form 2407 (Maintenance Request).

5. Initiate or update applicable equipment logbook forms.

6. Plan, control, and schedule equipment through the inspection, calibration, and repair cycles.

7. Troubleshoot, repair, replace, overhaul, and modify major assemblies, subassemblies, components, and parts of equipment.

8. Troubleshoot and repair subsystems such as electrical, hydraulic, turret, fire control, and armament items.

9. Correct safety deficiencies and faults.

10. Perform unit level Preventive Maintenance Checks and Services (PMCS) for those customers for whom the Maintenance Division has authorized this type of support.

11. Comply with AOAP requirements.

12. Load test and stencil recovery and wrecker equipment with required test data.

13. Provide allied trades support such as welding, machining, and fabricating, and body, frame, hull, sheet metal, glass, wood, and fabric repair.

14. Perform cleaning, degreasing, painting, and stenciling.

15. Perform final inspections to validate serviceability of equipment, and provide documentation to the contracting officer within 2 days of inspection.

#### *Performance Standards*

The contractor shall comply with the procedural requirements, specifications, standards, tolerances, wear limits, expenditure limits, and other applicable criteria as specified in:

1. AR 750-1 (Materiel Maintenance).

2. DA PAM 738-750 (Army Maintenance Management).

3. TRADOC MIMS Manual 18-1-1-TSG.

4. FORSCOM Regulation 700-5 (Transfer of Equipment).

5. TB 43-0210 (AOAP).

6. TB 43-0142 (Lifting Devices).

7. Applicable equipment technical publications.
8. Applicable equipment technical bulletins.
9. Memorandum of Instruction, work standards, and messages applicable to transferring or upgrading equipment as the contracting officer specifies.

#### *Performance Periods*

1. The contractor shall complete items scheduled, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.
2. The contractor shall complete items in accordance with work schedules that the contractor has developed and that the contracting officer has approved.

### **Cleaning, Degreasing, and Lubricating**

#### *Scope*

This section describes tasks and standards required to provide cleaning, degreasing, and lubricating services to facilitate maintenance and repair of equipment. Workload is included in Technical Exhibit \_\_\_\_, but is not separately identifiable as cleaning and degreasing service.

#### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and materiel maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.
2. Operate and maintain installed and portable high-pressure steam cleaners and similar items.
3. Operate and maintain chemical solvent vats used for cleaning and degreasing assemblies and components.
4. Operate and maintain recycling and ultrasonic solution vats.
5. Operate and maintain a radiator boiler and cleaning vat.
6. Remove excess solid and liquid matter such as petroleum, oils, lubricants, dirt, mud, and soot from interior and exterior surfaces of equipment or items on work order DA Form 2407.
7. Clean and purge fuel cells, pods, and tanks of solid matter, vapors, fumes, and gases.
8. Clean, collect, and dispose of waste materials in accordance with the hazardous materials clauses of this contract or as the contracting officer directs.

9. Remove trash and debris from cab interiors and cargo beds.

10. Reject requests submitted solely for cleaning and degreasing, unless otherwise approved by the contracting officer.

11. Lubricate work items and change fluids.

#### *Performance Standards*

The contractor shall:

1. Operate and maintain cleaning and degreasing equipment as specified in applicable equipment recommendations and standards.

2. Be responsible for the removal of nonessential solid and liquid matter accumulated during maintenance, repair, or inspection by the contractor prior to returning equipment to the customer.

3. Ensure that equipment and items scheduled for return to Army or local supply systems, the RXA, or ORF are clean, i.e., they show no visible signs of nonessential solid or liquid matter.

#### *Performance Periods*

The contractor shall complete items scheduled, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

### **Storage and Shipping Container Repair**

#### *Scope*

This section describes tasks and standards required to perform unit, intermediate direct support, and intermediate general support maintenance and repair on storage and shipping containers such as Container Express (CONEX) and Military Vans (MILVANS). Workload is included in Technical Exhibit \_\_\_\_, but is not separately identifiable as storage and shipping container repair.

#### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and materiel maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

2. Perform technical inspections to determine repair eligibility, repair requirements, and the presence of any small caliber unexpended ammunition or explosive materials, as the contracting officer directs.

3. Repair holes, cracks, and dents in interior and exterior floor, wall, ceiling, and door panels.

4. Fabricate panels, identification plates, locking mechanisms, handles, and hinges as necessary.
5. Lubricate, adjust, align, and repair or replace doors and windows.
6. Cannibalize nonreparable items for serviceable parts and components.
7. Clean interior and exterior surfaces.
8. Spot paint or paint completely as necessary.

#### *Performance Standards*

The contractor shall:

1. Perform maintenance and repair in the manner most economical to the Government and consistent with the standards, specifications, economical repair limits, and expenditure limit criteria specified in applicable technical publications.
2. Comply with AR 750-17.<sup>54</sup>

#### *Performance Periods*

The contractor shall complete items scheduled, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

#### **Cannibalization (CANN) Point Operations**

##### *Scope*

This section describes tasks and standards required to operate a Cannibalization (CANN) Point within the facility boundaries as a supply source for authorized low mortality (items which seldom fail) or difficult-to-obtain repair parts. The contracting officer shall designate the items to be placed in and removed from the CANN Point. The contractor shall not use CANN Point end items for their original intended purposes. CANN Point items shall be used as a parts source only. Technical Exhibit \_\_\_\_ displays examples of equipment.

##### *Tasks*

The contractor is required to:

1. Comply with AR 710-2.<sup>55</sup>

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<sup>54</sup> AR 750-17, *Maintenance of CONEX/MILVAN Equipment* (DA, 15 April 1978).

<sup>55</sup> AR 710-2, *Supply Policy Below the Wholesale Level* (DA, 13 January 1988).

2. Not add or delete CANN Point end items without the approval of the contracting officer. The contractor shall accept delivery from ISD personnel of approved CANN Point assets. The contractor shall also assist ISD in the movement of assets to the CANN Point when the contracting officer so directs.

3. Not allow components on the RXA listing or strip list to be removed from the CANN Point without the written approval of the contracting officer.

4. Provide written notice to the contracting officer on a weekly basis of those end items which no longer have parts subject to cannibalization. When requested to do so by the contracting officer, the contractor shall complete a DD Form 1348-1<sup>56</sup> and deliver the end item to the DRMO, through the ISD.

5. Not allow parts removal from the CANN Point unless the customer has provided a DA Form 2765-1 identifying the part. The contractor shall verify that the customer has routed DA Form 2765-1 through MMC and ISD. The contractor shall also ensure that the customer removes only the item(s) requested on the DA Form 2765-1.

6. Provide the contracting officer with a copy of all issue documents for repair parts removed from the CANN Point.

7. Assist the customer to locate requested item(s) and also to provide safety precautions on oil spill prevention, cleanliness, and orderliness of the area when removing requested items.

8. Provide control and security for the CANN Point to prevent usage by unauthorized customers.

9. Establish an operating procedure which prevents spills of petroleum products and other toxic and hazardous wastes during the operations of the CANN Point. This plan shall be consistent with all applicable regulations addressed previously in this document under hazardous materials.

#### *Performance Standards*

The contractor shall meet the following standards:

1. End items and components being held for cannibalization shall not be reissued or loaned without the contracting officer's prior approval.

2. Items shall be removed from the CANN Point and turned in to Property Disposal within 3 workdays after receipt of turn-in documentation from the contracting officer.

3. Permit only authorized customers to remove repair parts from the CANN Point.

4. Remove and document selected parts on DA Form 2407 at the contracting officer's direction, before placing an item in the CANN Point, in accordance with the priority designation on the Maintenance Request.

5. Document parts issued from the CANN Point on DA Form 2765, which the customer has completed and signed.

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<sup>56</sup> DD Form 1348-1, "DOD Single Line Item Release/Receipt Document" (DOD, September 1987).

6. Accurately describe all end items in the Cannibalization Point on the Cannibalization Point Assets Listing.

7. Minimize safety hazards and facilitate the removal of available parts during the placement of end items within the Cannibalization Point.

8. Approve end items within the Cannibalization Point in advance by the contracting officer.

9. Keep the CANN Point area orderly, clean, and free of debris, to facilitate the retrieval of parts.

#### *Performance Periods*

The contractor shall complete items scheduled, and the labor hours charged shall not exceed the estimated or standard labor hour requirements on DA Form 2407/2407-1 by more than 10 percent.

#### **Removal of Strip List Items**

##### *Scope*

The contractor shall disassemble major end-item equipment when written disposition instructions, from the contracting officer, direct or permit removal and return of required items to the supply system. Workload is included in Technical Exhibit \_\_\_\_, but is not separately identifiable as strip list work.

##### *Tasks*

The contractor is required to:

1. Accept, reject, plan, control, and schedule items and materiel maintenance on DA Form 2407 (Maintenance Request) for maintenance and repair as specified in the sections on Production, Planning, and Control; Technical Inspections; and Description of Work, Materiel Maintenance Requirements: Part 11.

2. Initiate and process DA Form 2407, Maintenance Request, identifying selected major assembly and component items to be removed from equipment.

3. Plan, control, and schedule equipment for stripping.

4. Remove, drain, clean, prepare for shipment, and/or repair items removed from equipment such as engines, transmissions, transfers, radiators, batteries, differentials, steering gears, axles, and other directed items.

5. Upon removal of selected items, move remaining equipment residue to the Cannibalization (CANN) Point.

#### *Performance Standards*

The contractor shall comply with the procedural, cannibalization, and maintenance requirements specified in the following:

1. Disposition and strip list instructions as specified by the contracting officer.
2. DA PAM 738-750.
3. TRADOC MIMS Manual 18-1-1-TSG.
4. AR 710-2, DA PAMs 710-2-1 and 710-2-2.

*Performance Periods*

The contractor shall initiate work requests within 2 workdays of receipt of disposition instructions for equipment requiring cannibalization.



#### 4 SUMMARY AND RECOMMENDATIONS

This report has presented a PWS for the Fort Polk DOL that accurately reflects the work tasks and standards of that organization, and that provides a model PWS to help other U.S. Army DOLs prepare PWSs for CA studies.

It is recommended that U.S. Army DOLs preparing for a CA study for third-party contracting comparison use the PWS presented in this report as a generic model to help develop their own PWSs. Individual DOLs should modify the model to reflect specific practices and equipment needs.

#### REFERENCES

- AR 5-9, *Inter Services Support Installation Area Coordination* (Department of the Army [DA], 1 March 1984).
- AR 25-400-2, *The Modern Army Recordkeeping System (MARKS)* (DA, 15 October 1986).
- AR 50-5, *Nuclear and Chemical Weapons and Material — Nuclear Surety* (DA, 30 October 1986).
- AR 190-11, *Physical Security for Arms, Ammunition, and Explosives* (DA, 31 March 1986).
- AR 190-13, *The Army Physical Security Program* (DA, 20 June 1985).
- AR 200-1, *Environmental Protection and Enhancement* (DA, 15 June 1982).
- AR 310-2 superseded by AR 25-30, *The Army Integrated Publishing and Printing Program* (DA, 28 Feb 1988) and AR 25-1, *The Army Information Resources Management Program* (DA, November 1988).
- AR 310-34, superseded by AR 71-13, *The DA Equipment Authorization and Usage Program* (DA, 3 June 1988).
- AR 340-20, superseded by AR 25-30, *The Army Integrated Publishing and Printing Program* (DA, 28 Feb 1988) and AR 25-1, *The Army Information Resources Management Program* (DA, November 1988).
- AR 340-4, superseded by AR 25-1 *The Army Information Resources Management Program* (DA, November 1988).
- AR 340-22, superseded by AR 25-1 *The Army Information Resources Management Program* (DA, November 1988).
- AR 380-5, *DA Information Security Program* (DA, 25 February 1988).
- AR 380-40, *Policy for Safeguarding and Controlling COMSEC Information* (DA, 1 June 1982).
- AR 385-11, *Ionizing Radiation Protection (Licensing, Control, Transportation, Disposal, and Registration Safety)* (DA, 1 May 1980).
- AR 700-68, *Storage and Handling of Compressed Gases and Gas Cylinders* (DA, 2 September 1971).
- AR 640-15, *Criterion for Ensuring the Competency of Personnel To Install, Maintain, and Repair Communications Security Equipment* (DA, 4 September 1974).
- AR 700-88, *Commercial Design Vehicles FSC Class 2300* (DA, 22 June 1972).
- AR 702-8 superseded by AR 750-1, *Army Material Maintenance Policy and Retail Maintenance Operations* (DA, 31 October 1989).
- AR 710-1, *Centralized Inventory Management of the Army Supply System* (DA, 1 February 1988).
- AR 710-2, *Supply Policy Below the Wholesale Level* (DA, 13 January 1988).
- AR 725-50, *Requesting, Receipt, and Issue System* (DA, 1 October 1987).

## REFERENCES (Cont'd)

- AR 735-5, *Policies and Procedures for Property Accountability* (DA, 20 September 1989).
- AR 735-72, *Accounting for Industrial Property and Equipment in Place* (DA, 1 June 1974).
- AR 750-1, *Army Material Maintenance Policy and Retail Maintenance Operations* (DA, 31 October 1989).
- AR 750-17, *Maintenance of CONEX/MILVAN Equipment* (DA, 15 April 1978).
- Code of Federal Regulations (CFR) 40, "Protection of Environment" (Office of the Federal Register, National Archives and Records Administration, Washington DC).
- Common Table of Allowances (CTA) 50-900.
- DA 12-Series Forms, see DA PAM 25-33, *The Standard Army Publication System (STARPUBS): Revision of the DA 12-Series Forms, Usages and Procedures* (DA, 1 June 1988).
- DA Form 17, "Requisition for Publications and Blank Forms" (DA, October 1979).
- DA Form 1687, "Signature Card" (DA, January 1982).
- DA Form 1999-R, "Restricted Area Visitor Register" (DA, January 1988).
- DA Form 2028, "Recommended Changes to Publications and Blank Forms" (DA, February 1979).
- DA Form 2028-2, "Recommended Changes to Equipment Technical Publications" (DA, July 1979).
- DA Form 2404, "Equipment Inspection Maintenance Worksheet" (DA, April 1979).
- DA Form 2405, "Maintenance Request Register" (DA, April 1962).
- DA Form 2407, "Maintenance Request" (DA, August 1988).
- DA Form 2408-20, "Oil Analysis Log" (DA, May 1981).
- DA Form 2417, "Maintenance Request" (DA, August 1988).
- DA Form 2418, "Backlog Status and Workload Accounting Card" (DA, January 1970).
- DA Form 2765-1, "Request for Issue or Turn-in" (DA, April 1976).
- DA Form 3161, "Request for Issue or Turn In" (DA, May 1982).
- DA Form 4569-R, "USARC Requisition Code Sheet" (DA, August 1979).
- DA Form 5504, "Maintenance Request" (DA, September 1988).
- DA PAM 25-30, *Consolidated Index of Army Publications and Blank Forms* (DA, 31 December 1989).
- DA PAM 310-10, *The Standard Army Publications System (STARPUBS): User's Guide* (DA, 1 October 1982).
- DA PAM 710-2-1, *Using Unit Supply System (Manual Resources)* (DA, 1 January 1982).
- DA PAM 710-2-2, *Supply Support Activity Supply System: Manual Procedures* (DA, 1 March 1984).
- DA PAM 738-750, *The Army Maintenance Management System (TAMMS)* (DA, 31 October 1989).
- DD Form 314, "Preventive Maintenance and Schedule Record" (Department of Defense [DOD], December 1953).
- DD Form 577, "Signature Card" (DOD, May 1988).
- DD Form 1348-1, "DOD Single Line Item Release/Receipt Statement" (DOD, September 1987).

## REFERENCES (Cont'd)

- DD Form 1435, "COMSEC Maintenance Training and Experience Records" (DOD, April 1982).
- DOD 5200.1-R, *Information Security Program Regulation* (DOD, 1 August 1982).
- Federal Specification AA-D-001910, *Desks, Steel, General Office* (DOD, 10 July 1970).
- Federal Specification L-P-508G, *Plastic Sheet, Laminated, Decorative, and Nondecorative* (DOD, rev. 19 April 1977).
- Federal Specification TT-C-490b, *Cleaning Methods for Ferrous Surfaces and Pretreatments for Organic Coatings* (DOD, 15 December 1989).
- Federal Standard 595A, *Colors Used in Government Procurement* (DOD, 2 January 1968).
- FORSCOM Reg 700-5, *Transfer of Equipment*.
- OMB Circular A-76, *Performance of Commercial Activities* (Office of Management and Budget).
- SF368 "Report of Item Discrepancy" (Army Materiel Command [AMC], April 1974).
- TB 43-0142, *Safety Inspection and Testing of Lifting Devices* (DA, 14 June 1982).
- TB 43-0147, *Instructions for Safe Handling, Maintenance, Storage, and Disposal of Radioactive Items Managed by the U.S. Army Armament Material Readiness Command* (DA, 18 March 1982).
- TB 43-0209, *Color, Marking, and Camouflage Painting of Military Vehicles, Construction Equipment, and Materials Handling Equipment* (DA, 29 October 1976).
- TB 43-0210, *Nonaeronautical Equipment Army Oil Analysis Program* (DA, 10 December 1984).
- TB 380-41, *Procedures for Safeguarding, Accounting, and Supply Control of COMSEC Material* (DA, 1 July 1981).
- TB 750-651, *Use of Antifreeze Solutions, Antifreeze Extender, Cleaning Compounds, and Test Kit in Engine Cooling Systems* (DA, 12 February 1989).
- TM 5-618, *Paints and Protective Coatings* (DA, 15 June 1981).
- TM 9-237, *Operator's Manual for Welding Theory and Application* (DA, 29 October 1976).
- TM 43-0139, *Painting Instructions for Army Material* (DA, 27 July 1988).
- TRADOC Manual 18-1-1-TSG, *Maintenance Information Management System (MIMS) User's Manual*.
- TRADOC User's Manual 18-1-1-XSA (MIMS User's Manual).

## **APPENDIX: Fort Polk List of Technical Exhibits**

<u><b>Title</b></u>	<u><b>Technical Exhibit #</b></u>
Customer Listing	1
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List and Samples of Blank Forms	7
Force Modernization Schedule	8
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Costing Methodology	39
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List of Deliverables	50

## LIST OF ACRONYMS

ACOD	Actual Cost of Damage
ADPE	Army Data Processing Equipment
AM	Amplitude Modulation
AMDF	Army Master Data File
AOAP	Army Oil Analysis Program
APC	Account Processing Code
ARI	Automatic Return Items
AUTOROS	Automated Retail Outlet System
CA	Commercial Activities
CAMS	Central Alarm Monitoring System
CANN	Cannibalization
CARC	Chemical Agent Resistant Coating
CDRL	Contract Data Requirements List
CLSP	Coordinated Logistics Support Program
COMSEC	Communications Security
CONEX	Container Express
CORPARS	Contractor Operated Parts Store
CTA	Common Table of Allowances
CVC	Combat Vehicular Communication
CW	Continuous Wave
DC	Direct Current
DME	Distance Measuring Equipment
DMS	Data Management System

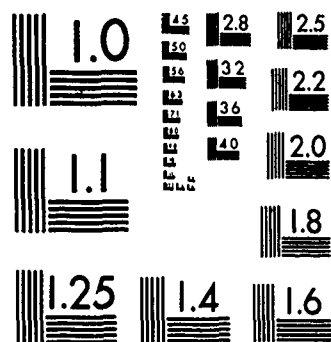
### **LIST OF ACRONYMS (Cont'd)**

<b>DOD</b>	<b>Department of Defense</b>
<b>DOL</b>	<b>Directorate/Director of Logistics</b>
<b>ECD</b>	<b>Estimated Completion Date</b>
<b>ECOD</b>	<b>Estimated Cost of Damage</b>
<b>FAR</b>	<b>Federal Acquisition Regulation</b>
<b>FM</b>	<b>Frequency Modulation</b>
<b>FORCE MOD</b>	<b>Force Modernization</b>
<b>FORSCOM</b>	<b>U.S. Army Forces Command</b>
<b>FWT</b>	<b>Fair Wear and Tear</b>
<b>GFP</b>	<b>Government-Furnished Property</b>
<b>HF</b>	<b>High Frequency</b>
<b>IAR</b>	<b>Inventory Adjustment Report</b>
<b>IDS</b>	<b>Intermediate Direct Support</b>
<b>IFF</b>	<b>Identification Friend or Foe</b>
<b>IGS</b>	<b>Intermediate General Support</b>
<b>IMMO</b>	<b>Installation Material Maintenance Officer</b>
<b>ISD</b>	<b>Installation Supply Division</b>
<b>JSIIDS</b>	<b>Joint Services Interior Intrusion Detection System</b>
<b>I F</b>	<b>Low Frequency</b>
<b>LP</b>	<b>Local Purchase</b>
<b>MACS</b>	<b>Maintenance Allocation Charts</b>
<b>MAIT</b>	<b>Maintenance Assistance Training</b>
<b>MCA</b>	<b>Military Construction, Army</b>
<b>MEL</b>	<b>Maintenance Expenditure Limits</b>

### **LIST OF ACRONYMS (Cont'd)**

<b>MF</b>	<b>Medium Frequency</b>
<b>MHE</b>	<b>Material Handling Equipment</b>
<b>MIG</b>	<b>Magnesium Inert Gas</b>
<b>MILVAN</b>	<b>Military Van</b>
<b>MIMS</b>	<b>Maintenance Information Management Systems</b>
<b>MLSP</b>	<b>Microfix Logistic Support Program</b>
<b>MOA</b>	<b>Memorandums of Agreement</b>
<b>MOI</b>	<b>Memorandums of Instruction</b>
<b>MWO</b>	<b>Modification Work Order</b>
<b>MWOFP</b>	<b>Modification Work Order Field Plans</b>
<b>NICP</b>	<b>National Inventory Control Point</b>
<b>NSN</b>	<b>National Stock Number</b>
<b>OMB</b>	<b>Office of Management and Budget</b>
<b>ORF</b>	<b>Operational Readiness Float</b>
<b>OSHA</b>	<b>Occupational Safety and Health Act</b>
<b>PMCS</b>	<b>Preventive Maintenance Checks and Services</b>
<b>POL</b>	<b>Petroleum, Oils, and Lubricants</b>
<b>PWS</b>	<b>Performance Work Statement</b>
<b>QA</b>	<b>Quality Assurance</b>
<b>QASP</b>	<b>Quality Assurance Surveillance Plan</b>
<b>RATT</b>	<b>Radio Teletypewriter</b>
<b>RFP</b>	<b>Request for Proposal</b>
<b>RXA</b>	<b>Reparable Exchange Activity</b>
<b>SAIS</b>	<b>Standard Army Intermediate Level Supply System</b>





MICROCOPY RESOLUTION TEST CHART  
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### **LIST OF ACRONYMS (Cont'd)**

<b>SCAS</b>	<b>Stability Control Augmentation Systems</b>
<b>SRTA</b>	<b>Shelter Repair Total Assembly Program</b>
<b>SSB</b>	<b>Single Sideband</b>
<b>STANFINS</b>	<b>Standard Financial System</b>
<b>TDA</b>	<b>Table of Distribution and Allowances</b>
<b>TI</b>	<b>Technical Inspection</b>
<b>TIG</b>	<b>Tungsten Inert Gas</b>
<b>TM</b>	<b>Technical Manual</b>
<b>TOE</b>	<b>Table of Equipment</b>
<b>UHF</b>	<b>Ultra-High Frequency</b>
<b>VHF</b>	<b>Very High Frequency</b>